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ABSTRACT

This volume focuses on young men whose ages span the years of transition from adolescence to adulthood, and analyzes a number of facets of their educational and labor market experiences over the period from 1966 to 1971. It is based on data from the National Longitudinal Surveys, collected by annual personal interviews with the same national sample of young men. Data include a detailed record of educational experience, information concerning first job after leaving school, a detailed work history during the survey period, and information about social, psychological, and economic characteristics of the respondents that are hypothesized to influence labor market behavior. Chapter 1 provides an overview of the 5-year period. Chapter 2 explores the factors related to the levels of educational and occupational aspirations expressed by those youth who were in high school at the beginning of the 5-year period. Chapter 3 analyzes the effects of various forms of investment in human capital on an individual's labor market position. Chapter 4 focuses on occupational mobility. Chapter 5 examines the unemployment experience of male youth, and chapter 6 discusses the impact of military service on a youth's subsequent labor market experience. Summary and conclusions are included in each chapter. Appendixes contain supplementary tables and instruments used in the studies. (TA)

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CAREER THRESHOLDS: Longitudinal studies of the educational and labor market experiences of young men

Andrew I. Kohen
John T. Grasso
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VOLUME SIX
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ERRATUM

The sentence beginning in line 17 should read:

There is no evidence, for example, that graduates of high school vocational curricula fare better than other graduates in terms of starting rates of pay,[9] nor do the measures of high school quality, college quality, and educational "credentials" exhibit significant impacts on earnings.[10]

For more than a decade the Center for Human Resource Research of The Ohio State University and the U.S. Bureau of the Census, under separate contracts with the Employment and Training Administration of the U.S. Department of Labor, have been engaged in the National Longitudinal Surveys (NLS) of labor market experience. Four subsets of the United States civilian population are being studied: young men who at the inception of the study were 14 to 24 years of age; a counterpart group of young women; women 30 to 44 years of age; and men 45 to 59 years of age. These groups were selected because each is confronted with special labor market problems that are challenging to policy makers: for the middle-aged men, problems of skill obsolescence and deteriorating health that may make reemployment difficult if jobs are lost; for the older group of women, problems associated with reentry to the labor market after children are in school or grown; and for the young men and women, the problems revolving around occupational choice, preparation for work and the often difficult period of accommodation to the labor market when formal schooling has been completed.

For each of these four population groups a national probability sample of the noninstitutional civilian population was drawn by the Census Bureau in 1966; interviews have been conducted periodically by Census enumerators utilizing questionnaires prepared by the Center for Human Resource Research. Originally contemplated as covering a five-year period, the surveys have been so successful and attrition so small that they have been continued beyond the initially planned expiration dates. As of the end of 1976, the older cohort of men had been interviewed in 1966, 1967, 1968 (mail), 1969, 1971, 1973 (telephone), 1975 (telephone) and 1976; the older cohort of women in 1967, 1968 (mail), 1969, 1971, 1972, 1974 (telephone), and 1976 (telephone); the young women annually between 1968 and 1973 and in 1975 (telephone); and the young men annually between 1966 and 1971, in 1973 and 1975 by telephone, and again in person in 1976.

A substantial body of literature has already appeared based upon the NLS data. Sixteen volumes of comprehensive reports have been published on surveys conducted through 1971. These have appeared under the titles of The Pre-Retirement Years (middle-aged men: four volumes); Dual Careers (mature women: four volumes); Years for Decision (young women: three volumes); and Career Thresholds (young men: five volumes). In addition, more than 100 special reports on specific topics have been prepared by staff members of the Center for Human Resource Research and other researchers throughout the country who have acquired public-use versions of the NLS tapes.

The present volume is based on the surveys of the young men through 1971. It differs from the previous volumes in the Career

Thresholds series in two major ways. First, it neither attempts to cover all aspects of the data comprehensively nor focuses on a single narrow topic. Rather, it consists of a set of interrelated studies on topics that are conceived to be important in understanding the educational and labor market experiences of young men. Second, rather than relying entirely on tabular analysis as have most of the previous volumes, all of the papers except the introductory one employ multivariate statistical techniques.

While not attempting to shirk our ultimate responsibility for any shortcomings the studies may have, we wish to acknowledge our debt to a large number of people without whose contributions neither the overall study nor the present volume would have been possible. The first acknowledgement must go to the several thousand members of the sample whose generous cooperation in repeated interviews has provided the raw materials for our endeavor.

Several officials of the Employment and Training Administration have been very helpful over the years in providing suggestions for the design of the NLS and in reviewing carefully the preliminary drafts of our reports. We wish to acknowledge especially the continuous support and encouragement of Howard Rosen, Director of the Office of Research and Development, and the valuable advice provided by Stuart Garfinkle, Jacob Schiffman, Rose Wiener, and Ellen Sehgal, who have at various times over the years served as monitors of the NLS project.

The research staff of the Center for Human Resource Research has enjoyed the continuous expert and friendly collaboration of personnel of the Census Bureau, who have been responsible for developing the samples, conducting all of the interviews, coding and editing the data, and preparing the initial versions of the data tapes. The names of those who have been involved in these activities over the years are too numerous to be mentioned individually, but we should like to acknowledge our special debt to Earle Gerson, Chief of the Demographic Surveys Division, and to his predecessors Daniel Levine and Robert Pearl; to Robert Mangold, Chief of the Longitudinal Surveys Branch; to Marie Argana, his immediate predecessor; and to his colleague Dorothy Koger. In addition, we wish to express our appreciation to Kenneth Frail of the Field Division for directing the data collection; to David Lipscomb and Eleanor Brown and their staff of the Systems Division for editing and coding the interview schedules; and to Thomas Meerholz, Kenneth Kaplan, and Benny Sharp for the preparation of the computer tapes.

The process of revising the computer tapes received from the Census Bureau and producing all of the tables and regressions incorporated in this volume was the responsibility of the Data Processing Unit of the Center for Human Resource Research under the direction of Robert Shondel. We wish to express special thanks to Michael Gallaugher, Ellen Kreider, Darlene Shuman, R. Barry Shuman, Jack Shrull, Keith Stober, and Ron Taylor for mediating so skillfully between us and the computer.

Herbert S. Parnes, Director of the NLS Project, provided us with his invariably valuable insights, reactions, and guidance. We also profited from the comments on earlier drafts of the entire volume generously provided by our colleagues Frank Mott, Gilbert Nestel, Steven Sandell, David Shapiro, and Richard L. Shortlidge of the Center for Human Resource Research. In addition, we received useful reactions to individual chapters from Richard Freeman, John L. Holland, J. Peter Matilla, David O'Neill, Donald P. Sanders, John R. Shea, and John Warner. In addition to the specific research assistance mentioned in the introductory notes to some of the chapters, we wish to acknowledge the conscientious assistance of Susan Breinich Barker. R. Jean Haurin provided valuable aid in coordinating the final compilation of the volume and Ellen Mumma assisted in technical editing after the seniors authors left Columbus to assume new positions.

Finally, we are grateful to Jeanie Barnes and Lois Stemen for the speed, accuracy, and cheerfulness with which they typed--and often retyped to correct the errors of others--the several versions of the text and tables.

February 1977

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CHAPTER I

INTRODUCTION*

An important aspect of a young man's transition from adolescence to adulthood is the embarkation on a career in the labor market. At age 14 a youth is just beginning his secondary education and is below the legal age limits for virtually all types of full-time employment; he generally has no economic responsibilities; he is just emerging from the fantasy stage of occupational aspiration and has very little knowledge or understanding of the dimensions of the world of work. Four years later he has completed high school and either has entered the labor market for full-time employment or has continued his education or training in preparation for a more-or-less specific work career. By age 24, he typically has left school permanently, assumed the responsibilities of a family, and has frequently developed a reasonably firm occupational commitment.

This volume focuses on young men whose ages span this volatile 10-year phase of the life cycle, and analyzes a number of facets of their educational and labor market experiences over the five-year period from 1966 to 1971. It is based on a unique set of longitudinal data collected by annual personal interviews with the same national sample of young men. Since the data contain a complete record of the educational and labor market experience of the youth over the five-year period, they allow one to perceive both the antecedents and consequences of particular events and courses of action.

The five years in question are an unusually interesting half decade from several points of view. They should reflect whatever short-run impact the Civil Rights Movement has had upon the relative employment status of young black men. Moreover, since they include a three-year span in which the labor market was relatively tight and improving (1966 to 1969) as well as a two-year period during which unemployment rose considerably (1969 to 1971), they permit an analysis of the effect of a change in the economic environment on certain facets of the labor market experience of the youth under consideration. Finally, the fact that the Vietnam War and the military draft prevailed during the period affords an opportunity to investigate the impact of military service on subsequent labor market experience.

I PLAN OF THE VOLUME

The papers in this volume neither purport to analyze all aspects of the labor market experience of young nor do they promise to exploit all of the data that have been collected in the surveys on which they are based. Rather, a limited number of topics have been selected that lend themselves well to longitudinal analysis, that promise to provide new insights into the labor market experience of male youth, and that have substantial bearing on their welfare. Furthermore, the papers are linked by an overall conceptualization of the transition from adolescence to adulthood that takes social origins and innate endowments as the initial elements in a causal chain. In this chain, origins and endowment are linked to attitudes and goals, which, in turn, are precursors of a youth's decisions about schooling and other "investments" in himself. At the same time, a young man's choices and actions are seen to be conditioned by his perception of the environment. Also, even if a youth misinterprets or is insensitive to environmental factors, they are seen to impose real constraints upon his behavior. The diverse and complex decisions made by a young man with respect to his schooling eventuate in his entrance to the labor market.

---

*This chapter was written by Andrew I. Kohen.

Initial entrance to the labor market is by no means the end of this chain, as adaptation to previously unknown or misunderstood elements in the world of work is necessary. This adaptation may be, and often is, manifested in a revision of previously held aspirations and ambitions. It may also be manifested in the form of further investment by a young man in himself, including acquisition of vocational training, returning to school, and/or engaging in the several forms of labor market mobility (between employers, areas, or occupations).

The next chapter in this volume provides a fitting introduction to the analysis of the youths' labor market experience, for it deals with the development of education and occupational goals. Specifically, it explores the factors related to the levels of educational and occupational aspirations expressed by those youth who were in high school at the beginning of the five-year period covered by the study. Variation in the degree of congruity between educational and occupational goals, the degree of "realism" of educational aspirations, and the degree of confidence with which educational goals are held is also analyzed. Finally, exploiting the longitudinal nature of the data, the study investigates factors associated with the adaptation of educational goals during the high school years and during the two years thereafter.

In Chapter III, the effects of various forms of investment in human capital on an individual's labor market position are analyzed. In addition to the criterion of hourly rate of pay, measures of occupational status and of degree of skill required are used to indicate degree of success in the labor market. Among the explanatory variables are level, type, and quality of education; types of training outside the formal educational system; and the duration of various types of work experience. The analysis permits an assessment of the extent to which the contributions to labor market success of these different types of "investments" vary among different groups of youth (e.g., whites versus blacks). Finally, in view of the possibility that the relationships themselves were undergoing change during the five-year period, the study also compares the experience of high school and college graduates who entered the labor market during the period 1966 to 1968 with that of comparable individuals who entered after 1968.

Chapter IV focuses on occupational mobility. In addition to quantifying and describing the gross changes in major occupation group that occurred (1) between entrance into the labor market and 1971 and (2) over the five-year period 1966 to 1971, the study analyzes the factors that are associated with both the incidence and the magnitude of occupational advancement during these same periods. Among these factors are a young man's level of human capital, his mobility between employers and areas, and the environmental constraints that he encounters as a result of his race.

In Chapter V, the unemployment experience of male youth is examined from a rather novel point of view and with a novel methodology. This analysis is directed at relating the incidence and duration of unemployment to various types of job separation. Accordingly, it focuses only on members of the experienced labor force who are not enrolled in school and utilizes a week of labor force experience as the unit of observation. The study first identifies the factors associated with the probability of different types of job separation, and then explores the incidence and duration of unemployment following each type of separation.

Chapter VI is designed to provide some insights into the impact of military service on a youth's subsequent labor market experience. It begins with an investigation of the factors that are associated with the likelihood of having served in the armed forces during the Vietnam War. It then attempts to assess the net impact of military service on various aspects of subsequent civilian labor market experience including earnings, occupational status, and the incidence of unemployment.

II THE LONGITUDINAL DATA BASE

The Sample

The studies in this volume are based on data from the National Longitudinal Surveys.[1] The members of the sample who provided the information were selected to be representative of the approximately 16 million young men in the U.S. civilian noninstitutionalized population who in 1966 were between the ages of 14 and 24. The sample was drawn from the 235 Primary Sampling Units (PSU's) included in the experimental Monthly Labor Survey that was being conducted in the mid-1960's to test proposed changes in the Current Population Survey (CPS) interview schedule. Thus, sampling procedures were analogous to those used in the CPS.[2] However, in order to provide sufficient numbers of observations for reliable intercolor comparisons, the sampling ratio for blacks was between three and four times as high as that for whites. Thus, the sample of 5,225 youth originally interviewed in 1966 included 3,734 whites, 1,438 blacks, and 53 young men of other races. The last-mentioned group has been eliminated from all of the analyses in this volume.

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[1] These surveys have been designed by the Ohio State University Center for Human Resource Research under a contract with the Employment and Training Administration of the U.S. Department of Labor. The sample design, field work, and the initial stages of data processing are the responsibility of the U.S. Bureau of the Census under a separate contract with the Employment and Training Administration. For a complete description of the surveys see Center for Human Resource Research (August 1976).

In addition to the difference in sampling weights between blacks and whites, there is also some variation within each color group. In part, this reflects a noninterview adjustment in weights that was made immediately after the initial survey to account for persons identified in the initial sample screening who were not interviewed. In part, it reflects further adjustments in the weights to make the sample conform to the known distribution in 1966 of the United States' civilian population by residence, age, color, and sex. Although the tables in the report show numbers of sample cases rather than blown-up population estimates, all calculations (percentage distributions, means, regressions) are based upon weighted observations.[3]

It is important to note that although the data collected in the 1966 survey are representative of the civilian population of this age cohort of young men in that year, the same is not true for the information collected in any subsequent year for two reasons. First, those men who were in the armed services in 1966 and who returned to civilian life during the ensuing five years are not represented. Second, there has been no attempt to adjust the sampling weights to take account of attrition. Between the initial survey in 1966 and the 1971 survey, the sample shrank from 5,225 cases to 3,987, an attrition rate of 24 percent. Two-fifths of this loss (10 percentage points) was attributable to entrance into the armed services, one-third to refusals or "disappearance," and one-fourth to temporary absence from home, institutionalization, or death.

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[2] For a detailed description of the sampling, interviewing, and estimating procedures, see Appendix D.

[3] The sole exceptions are Appendix Tables 1A.1 and 1A.2 (showing the noninterview rates in the 1971 survey), Appendix Table 5A.2, and text Table 5.9 (illustrating the novel methodology used in studying unemployment).

As might be expected, these losses were not randomly distributed. As is indicated in Appendix Table 1A.1, attrition is generally higher for blacks than for whites and varies by a number of characteristics within each racial group. To take one example, among blacks, attrition was above average for those whose 1966 residence was in a central city of an SMSA and among those who resided outside the South; among whites these patterns do not prevail. With respect to most of the characteristics that have been examined, variation in attrition is not very great. However, there are some noteworthy exceptions to this generalization that should be borne in mind when reading the detailed analyses in the chapters to follow.

First, there is a racial difference in attrition according to socioeconomic status (SES) of the respondent's parental family. Specifically, among the members of the cohort attending school in 1966, attrition was above average for blacks from medium and high SES families, whereas it was below average for whites from high SES families. A similar pattern may be discerned among those who were out of school at the time of the 1966 survey; i.e., the attrition rate of low SES blacks was much below average while that of high SES whites was much below average. These patterns of attrition imply that in our analyses the estimates of black/white differences may be biased upward, and, therefore, we attempt to be cautious in discussing such differences. Finally, among those members of the sample who were out of school at the time of the 1966 survey the rate of attrition was inversely related to the amount of schooling they had completed as of 1966, irrespective of race. Thus, the data may yield an overstatement of the positive relationship between amount of schooling and mobility. Nevertheless, for most of the relationships explored in the studies included in this volume, it is doubtful that attrition has imparted any substantial bias.

Several aspects of the gross changes over time in the sample are also noteworthy, because the net attrition rates do not reveal the entire picture of changes in the sample's size and composition. For example, nearly 10 percent of those interviewed in 1971 had been noninterviewees in 1970 (Appendix Table 1A.2). In fact, over 5 percent of those interviewed in 1971 were not interviewed in either of the preceding surveys (i.e., 1969 and 1970). This phenomenon of recovering temporary absentees, as was anticipated,[4] grew over the life of the surveys and attests both to the diligence and expertise of the Census interviewers and to the cooperativeness of the respondents. Finally, it is of interest to note that some changes in the sample's composition as a result of nonrandom attrition actually are smaller than they would have been in the absence of respondents returning to the sample. For example, blacks have had a higher return-to-the-sample rate than whites, partially offsetting the racial differences in gross attrition.

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[4] See Kohen (1974), p. 5.

The Surveys

Each of the annual interviews between 1966 and 1971 was conducted by approximately 300 to 400 interviewers of the Field Division of the Bureau of the Census, utilizing schedules prepared by the Center for Human Resource Research. Each survey extended over a two- to three-month period beginning in late October; thus, although the term "survey week" is used throughout the report to refer to the reference week (preceding the date of the interview), it should be borne in mind in interpreting the data that this is not the same week for all respondents.

Nature of the Data

Stated most succinctly, the data collected during the course of the National Longitudinal Surveys include a rather detailed record of educational experience, information concerning first job after leaving school, a detailed work history during the period covered by the surveys, and information about a variety of social, psychological, and economic characteristics of the respondents that are hypothesized to influence labor market behavior. No particular purpose would be served by attempting to catalog at this point the types of information that have been collected, but Appendix B contains a glossary defining all of the variables used in this volume and describing how they are measured.

While detailed description is unnecessary, the analytical potential inherent in the longitudinal character of the data deserves emphasis. The fact that the data have been collected at six points in time over a five-year period makes it possible to examine the extent and character of change in important aspects of the educational and labor market status of the youth, and this in itself is a substantial contribution, because such data are relatively uncommon. But much more important is the ability to relate an individual's characteristics at one point in time to his characteristics or status at a subsequent point and to examine changes in one set of characteristics in the light of changes in another. This allows analysis of developmental processes and the exploration of directions of causation that can be accomplished in no other way.

These unique contributions of longitudinal analysis are illustrated frequently in the following chapters. Only two examples need be provided here. In Chapter II, the analysis of revision in educational goals is made possible by the fact that identical questions on this topic were asked in each of the surveys. While one might conceivably make such a study on the basis of retrospective questions asked at a single point in time, it is clear that such an approach would suffer not only from the possibility of faulty recall, but from the likelihood that a respondent's report of his previous aspirations would be colored by his subsequent actual experience. As another example, in Chapter III, extent of labor market information as measured in 1966 is found to be related to several measures of labor market status in 1971. Were such relationships to be found in cross-sectional rather than longitudinal data, it would not be clear whether labor market information was causing labor market success or simply reflecting it.

III THE FIVE-YEAR PERIOD: AN OVERVIEW

The remainder of this introductory chapter is devoted to examining the magnitude and direction of change in some major aspects of the lives of the young men over the five years of the study. These data provide useful insights into the nature of the educational and labor market experiences of young men during the late 1960's and early 1970's and set the scene for the more detailed analyses of the subsequent chapters.

Geographic Mobility, 1966 to 1971

Illustrative of the volatility of young men in a period as short as five years is the fact that by 1971 one in five was living in a different type of area than the one in which he lived in 1966 (Appendix Table 1A.3).[5] Obviously, this reflects a variety of forces that impel geographic movement, including completion of school, establishment of new households, and acquisition of new jobs. Generally speaking, migration by the young men conformed to the historical trends in the U.S. of movement away from rural and toward urban areas, and this pattern was more pronounced among blacks. While there certainly is evidence of gross flows of young men toward the suburbs of the metropolitan centers, on balance there was a net shift toward the central cities of these areas.[6] This probably reflects, in part, the trend toward annexation by American cities, but it also undoubtedly reflects the acquisition by newly formed households of relatively lower cost housing in central cities.

Also attesting to the substantial geographic mobility of young men are data indicating that about one in ten had changed Census division of residence between 1966 and 1971 (Appendix Table 1A.4). Young men of both races evidenced relatively more movement away from the South and toward the North and West, though this was more pronounced among blacks. That these longer-distance changes of residence are associated with the process of school completion can be seen from the data for those who were students in 1966 and out of school in 1971 (Table 1A.5). Within this group approximately one out of every seven changed his division of residence over the five-year period. Moreover, in nearly every case where sample sizes permit comparison, the rate of outmigration from a division is higher for those who left school during the period than for the cohort as a whole.[7]

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[5] It is undoubtedly true that the NLS data understate the rates of geographic mobility in the population because of attrition from the sample.

[6] The term "central city" should not be confused with the commonly used term "inner city." The former is a rather well defined geo-political unit, whereas the latter is more ambiguous. Thus, the data should not be interpreted as showing population shifts toward the "ghettos" of urban America.

Family Status Changes

Another indication of the dramatic changes that characterized five years in the lives of these young men is the growth in family (financial) obligations that they incurred. Aside from the obvious increase in the proportion who were married, a large component of this growth in financial obligations was due to the birth of children. Among young white men who were married at both dates, two in five had no dependents (other than their wives) in 1966, but by 1971 this was true of only one in twelve (Appendix Table 1A.6). The comparable proportions for blacks were one in five and one in thirty. Moreover, among both races more than 50 percent of those without children in 1966 had two or more children in 1971.

Educational Progress

Accompanying the substantial demographic changes noted above, this cohort of young men made considerable progress in their educations during the five-year period. Among those attending high school in the Fall of 1966, fully two-fifths of the whites and one-fourth of the blacks had completed at least one year of college by 1971 (Appendix Table 1A.7). Of the high school graduating class of 1967, one in five whites, but only one in twenty blacks, was a college graduate by 1971. Among those enrolled as undergraduates in college in 1966, three-fifths of the whites and one-half of the blacks had obtained at least a bachelor's degree by 1971; about a fifth of each color group had gone on to graduate or professional school.

Of course, it is also of interest to know how this educational progress coincided with the goals expressed by the young men in 1966. Among those enrolled in college in 1966, one-third of the whites had achieved the goal they had set for themselves in 1966 and another one-fourth were still attending school in 1971 in pursuit of their goal (Appendix Table 1A.8).[8] The corresponding proportions for black youth were one-tenth and one-fourth. While this appears to indicate a considerable shortfall of achievement as compared to goals, it must be borne in mind that the manpower demands of the U.S. Armed Forces often served to interrupt a young man's plans during this period. In addition, many of the youth modified their goals as they met with greater or less success in college. Thus, about one-fifth of the white and one-fourth of the black college students who aspired to post-baccalaureate study as of 1966 had revised their goals downward by 1971. About one-fourth of each group who had aspired to post-baccalaureate work were still enrolled in 1971.

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[7] Young white men who attended school in the Southwest and on the West Coast evidently had stronger inducements to remain in those areas than did their counterparts who were already out of school in 1966. This may be due in part to climate playing a role in college attendance decisions.

[8] The revision of educational goals by 1966 high school students is analyzed in Chapter II below.

Further, there obviously were some young men who were only temporarily out of school at the time of the 1966 survey. About one-fourth of the 1966 nonstudents who professed a desire to return to school had actually done so by 1971, but fewer than one in twenty had achieved the goal expressed in 1966. Not surprisingly, most likely to return to school were those who had aspired to graduate/professional study (almost 50 percent); yet only about one in seven had attained this 1966 goal by 1971. A discouraging feature of these data is that only one in twenty high school dropouts who in 1966 desired to acquire a high school diploma actually returned to school during the ensuing five years.[9] Moreover, in excess of three-fourths of the dropouts who aspired to additional schooling in 1966 continued to do so in 1971, notwithstanding the fact that they had been out of school for at least five years. Thus, while there apparently is a strong awareness of the potential benefit of formal education, the barriers to its acquisition by these young men are even stronger.

Changes in Occupational Goals

While young men who were out of school in 1966 and 1971 seem to have clung tenaciously to their educational goals, they did modify their occupational aspirations (Appendix Table 1A.9). Of those who in 1966 had aspired to professional/technical careers, seven in ten whites and five in ten blacks had goals in 1971 that were lower on the occupational ladder. Among those who desired careers as skilled craftsmen, one in seven whites and one in four blacks had lowered their occupational ambitions. However, indecision about career goals declined only moderately over the five years (i.e., from 15 to 12 percent among whites and from 22 to 20 percent among blacks).

As they progressed through and left school subsequent to 1966, young men also modified their occupational goals quite substantially. Whereas two-fifths aspired to professional/technical careers as of 1966, less than three-tenths of them held aspirations for these types of careers as of 1971 (Appendix Table 1A.10). In addition, white, but not black, youth who left school after 1966 were less indecisive about their occupational goals in 1971 than in 1966 (14 versus 19 percent).

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[9] Detailed examination of selected respondents' records suggests that some dropouts acquired their high school diplomas by completing the GED equivalency test as civilians or as members of the armed forces. However, the design of the survey instrument prevents us from identifying all such cases or even from being certain that they are not simply instances of coding errors.

Labor Force and Employment Status

As measured by activity in the survey weeks, there was a steady increase over the five-year period in the proportion of young men who were in the labor force (Appendix Table 1A.11). This, of course, is attributable exclusively to the facts that (1) a steadily decreasing proportion of the young men were attending school and (2) a steadily increasing fraction of the students were enrolled in college rather than in high school. By 1971 more than 90 percent of the cohort were in the labor force, in contrast to approximately 70 percent in 1966. Likewise, about 70 percent of the students in 1971 were labor force participants as compared to about 54 percent in 1966.

The impact of changes in the state of the overall economy is very much in evidence in the data on unemployment rates of these young men. Among white students and nonstudents alike, the survey-week unemployment rate declined between 1966 and 1968, but while it continued to decline through 1971 for students, it rose precipitously among nonstudents after 1968. Indeed the increase for nonstudents was large enough (from 2.4 percent in 1968 to 6.1 percent in 1971) to result in an increase for the total group (from 5.2 percent in 1968 to 5.9 percent in 1971). While the patterns for black youth were somewhat less regular, the directions and net results were the same.

Consistent with other published material, our data indicate that the unemployment rate of blacks was between one-and-one-half and two times as great as the unemployment rate of whites. Furthermore, while the ratio did not increase as the labor market loosened between 1969 and 1971, this cannot be taken as evidence that young blacks did not bear a disproportionate share of the burden of the economic slump. While the participation rate of white nonstudents increased slightly over the two years, the rate for their black counterparts actually declined, suggesting that some of the downturn's effect on blacks was manifested in a growth in hidden unemployment (i.e., discouraged workers).

Number of Weeks Unemployed[10]

Survey week unemployment rates substantially understate the proportion of young men who experience unemployment during the course of a year. During the year preceding the initial survey, 16 percent of the white nonstudents and 27 percent of their black counterparts had at least one week of unemployment (Appendix Table 1A.12). Over the two-year interval between the 1969 and 1971 surveys--the period of steadily declining economic activity--the corresponding proportions were 29 percent and 47 percent. It is apparent that unemployment tends to be a recurring problem for young men who experience it. Those who had some joblessness in 1966 were noticeably more likely than others to experience additional joblessness during the two years between the 1969 and 1971 surveys. Generally speaking, the group of young men under study bore a disproportionate share of the burden of the economic slowdown of 1969 to 1971. For example, the white youth were nearly twice as likely as middle-aged men to be unemployed during 1966, whereas during the 1969 to 1971 period, this ratio exceeded three. The corresponding figures among blacks were even more dramatic--i.e., nearly two-to-one in 1966 and more than four-to-one in the interval 1969 to 1971.[11]

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[10] For a detailed analysis of unemployment and job separations during 1971 see Chapter V.

Among those young men who were out of school for the entire period between the 1966 and 1971 surveys, almost one-half of the whites and two-thirds of the blacks experienced at least one spell of unemployment during the five years (Appendix Table 1A.13). Indeed, 7 percent of the whites and 22 percent of the blacks were jobless for a cumulative duration exceeding half a year. While some of this was undoubtedly "voluntary" in the sense of accompanying a quit, the balance still bespeaks the existence of a social problem. For both racial groups the incidence and duration of unemployment were inversely related to education. For example, among whites, those who had completed at least one year of college were only half as likely to have had any unemployment as those who never finished high school. Also, the cumulative amount of unemployment for the former group was only four-fifths as large as for the latter group, among those who had any unemployment.

Hourly Earnings of Wage and Salary Workers

Expressed in dollars of constant purchasing power (November 1971), average hourly earnings rose between the 1966 and 1971 survey weeks by 37 percent for whites who were out of school and employed as wage and salary workers at all surveys; the increase was 45 percent for the corresponding group of blacks (Appendix Table 1A.14). These rates of increase were more than four times as high as the average for all production and nonsupervisory workers on private nonagricultural payrolls in the economy.[12] The higher overall rate of increase for blacks workers during the five-year period meant that, for those who were consistently employed, the racial differential in wages was reduced. The overall ratio of black-to-white hourly earnings increased from 71 to 75 percent, and similar gains were registered within all educational categories for which sample sizes permit comparison.

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[11] The data on middle-aged men come from Parnes et al., 1975, p. 255.

[12] The index of average hourly earnings in the private nonfarm sector rose from 98.1 to 106.7 (1967=100), an increase of 8.8 percent. See Bureau of Labor Statistics, 1975, Table 99, p. 249.

In addition, there is evidence that real wage differentials between educational categories changed over the five years. The relative gap between high school graduates and those with less than 12 years of schooling widened from 9 to 22 percent among whites and from 24 to 37 percent among blacks. Focusing on white young men,[13] it is also apparent that high school graduates narrowed the gap (from 12 to 7 percent) between themselves and those who had between one and three years of college training; yet the gap between college graduates and any of the other groups widened as college graduates were the beneficiaries of a 56 percent increase in real wages between 1966 and 1971.[14]

Annual Family Income

Up to this point, our attention has been confined to the earnings of wage and salary workers employed at each of the surveys. In focusing here on total family income, we include only those respondents who were married at the time of both the 1966 and 1971 surveys, but we do not control for either class of worker or survey-week employment status. Between the 1966 and 1971 surveys, real family income rose by 32 percent for the white men and 55 percent for the black men (Appendix Table 1A.15). This was somewhat smaller than real wage growth for the former and somewhat larger for the latter group. Again, there is some evidence of widening educational differentials--i.e., families with better educated husbands had slightly larger increases in real income than did those in which the husband had less schooling.

However, changes in total family income over the period are a rather misleading indicator of change in the economic welfare of these young families, for they do not take into consideration the changes in family composition during the period. When real family income is expressed on a per capita basis, the average increase over the five years is only 9 percent among blacks, and whites experienced a real decrease of 1 percent (Appendix Table 1A.16). Hence, the dramatic increases in dependency (i.e., children) completely counterbalanced the growth in total real income among white families and nearly did so among black families.

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[13] Small sample sizes of college trained blacks prevent an analysis of their wage growth.

[14] For additional consideration of a possible interaction between education and experience in the determination of wages, see Chapter III.

Net Family Assets

The average net asset position of respondents in nearly all race-marital status categories improved in real terms over the five-year period (Appendix Table 1A.17). The mean net assets of whites who were married in both 1966 and 1971 was $11,000 in 1971, an increase of 183 percent in real terms over 1966. For the corresponding group of blacks the 1971 mean was $3,200, a real increase of 472 percent. In both color groups, the largest relative gains in asset position were registered by the group comprised mainly of young men who were single and living away from their parents in both 1966 and 1971. In per capita terms, the increases were, of course, smaller for those married at both dates and for those who married between 1966 and 1971 (Appendix Table 1A.18).

Summary

During the half decade covered by the present study substantial changes occurred in the lives of young men. Many changed the area and nature of their residences concomitant with establishment of new households, departure from school, and acquisition of new jobs. The maturation of youth over these years was manifested by many of them graduating from high school and entering college, while others completed their college educations. Coincident with their educational progress was significant modification of their educational and occupational goals.

Labor market activity increased over the period as school leaving and college entrance led to increased rates of labor force participation. Nevertheless, these young men (especially blacks) bore a substantial portion of the burden of loosening labor markets in the latter two years of the period (1969 to 1971), as measured by survey-week unemployment rates and by number of weeks unemployed. For those who remained employed, however, real hourly earnings increased at a very rapid rate, and the racial wage differential narrowed somewhat. Among older members of the cohort who were married since the beginning of the period, average family income increased in real terms, as did their net assets. Yet, when the dramatic increase in family size due to the birth of children is accounted for, the apparent growth in the average economic well-being of these young families is substantially attentuated. However, averages often conceal considerable variation, and the factors accounting for this variation in several significant aspects of labor market experience are the focuses of the ensuing chapters.

REFERENCES

Center for Human Resource Research. National Longitudinal Surveys Handbook. Columbus: The Ohio State University Center for Human Resource Research, August 1976.

Kohen, A.I., with Andrisani, P. Career Thresholds, vol. 4. U.S. Department of Labor, Manpower Administration, Manpower Research Monograph no. 16. Washington, D.C.: U.S. Government Printing Office, 1974.

Parnes, H.S.; Adams, A.V.; Andrisani, P.A.; Kohen, A.I.; and Nestel, G. The Pre-Retirement Years, vol. 4. U.S. Department of Labor, Manpower Administration, Manpower Research Monograph no. 15. Washington, D.C.: U.S. Government Printing Office, 1975.

U.S. Department of Labor, Bureau of Labor Statistics. Handbook of Labor Statistics 1975--Reference Edition. Washington, D.C.: U.S. Government Printing Office, 1975.

CHAPTER II

THE FORMATION AND REVISION OF GOALS BY YOUNG MEN*+

I INTRODUCTION

The transition from adolescence to adulthood is perhaps the most difficult time of the life cycle. It is a time for testing, revising, and adapting personal interests, ideas, and behaviors to the institutions that constitute our social system. Part of this "coming of age" in a society where adult work roles are not ascribed at birth is the development of educational and occupational goals.

During adolescence youth make many decisions (consciously or otherwise) that determine the extent and nature of their "investment" in formal education. Furthermore, while there is some controversy regarding a causal sequence, decisions about educational and occupational aspirations are clearly interrelated--if only because the amount (and type) of formal education completed is the principal determinant of occupational assignment during adulthood. Hence, both the antecedents and the stability of these related aspirations become essential for understanding the development of career decisions of youth.

"Aspiration" has proven to be an elusive concept. Clearly it has both psychological and sociological antecedents and, with respect to educational and occupational aspirations, important economic consequences. Yet there appears to be no widely accepted general theory of how "aspirations" are formed. Hence, the literature dealing with educational and occupational aspirations contains many diverse approaches.

Much of the theoretical work on aspirations has been conducted by sociologists in the context of reference group theory.[1] This ". . . aims to systematize the determinants and consequences of those processes of evaluation and self-appraisal in which the individual takes the values and standards of other individuals and groups as a . . . frame of reference."[2] Thus, the aspirations of youth could be expected to be based on their perceptions of others as "frames of reference." Unfortunately, testing the theory is difficult because the relevant reference group need not have any direct or personal relationship with the individual in order for it to serve a comparison function. For example, a group of which an individual aspires to be a member is a reference group for that individual, and data on such relationships are difficult to obtain.

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*This chapter was written by John T. Grasso with the collaboration of Andrew I. Kohen.

+We are indebted to our colleague Donald Ronchi, who suggested using an "adaptive behavior" approach in the research and who participated in other aspects of planning this study. We also wish to acknowledge the assistance of R. Jean Haurin in the preparation of this study.

[1] For example, see Chapman and Volkman (1939); Herriott (1963); Kahl (1953); and Williams (1972).

Two important research contributions from the 1950's were the products of interdisciplinary teams.[3] Represented by their authors as "an approach to a general theory" and "a conceptual framework," respectively, these works emphasized that occupational choice is a developmental process characterized by the necessity for compromise:

> The decision concerning an occupational choice is, in the last analysis, a compromise whereby an individual hopes to gain the maximum degree of satisfaction out of his working life by pursuing a career in which he can make as much use as possible of his interests and capacities, in a situation which will satisfy as many of his values and goals as possible.[4]

Stimulated by this work, psychological theories of vocational choice[5] also have stressed the developmental nature of occupational goal selection, a process said to start in childhood and to continue through adulthood. Research based on the psychological theories has tended to focus on the role of personal factors (e.g., needs, personality) in affecting behavior at various "choice points" over the course of adolescence. However, the question of how aspirations are formed is sidestepped in the practice of treating expressions of choice directly. Unfortunately, this tacitly equates choice and aspiration and obscures the role of aspirations in influencing the behavioral manifestations of choice.

Finally, arising from this and other theoretical work, a large body of empirical research relating to the social psychological process of status attainment bears on the role of aspirations. Following the work of Duncan and other sociologists,[6] the work of Sewell and Hauser is paradigmatic of relevant attempts to model the attainment process.[7] The latter work postulates that socioeconomic background of the family influences the level of ability of sons; that background and ability affect the amount of schooling completed; that background, ability, and schooling influence achieved occupational status; and that all of these affect earnings during adulthood. In the model, aspirations are treated as one of several social psychological variables that mediate between socioeconomic background and ability and educational and occupational attainment. Other social psychological variables include high school rank as an indicator of motivation and the perceived expectations of "significant others," which affect and are affected by the youth's progress.[8]

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[2] Merton and Rossi (1957), p. 234.

[3] Ginzberg et al. (1951); Blau et al. (1956).

[4] Ginzberg et al. (1951), p. 27.

[5] For example, see Holland (1959, 1966, 1973); Roe (1956); Super (1953, 1957, 1967); and Tiedeman and O'Hara (1963).

This short discussion is by no means an exhaustive review of research on aspirations, but merely serves to introduce traditions relevant to what follows. For example, we employ the basic premise of reference group theory--that is, goals reflect the adoption of values and standards of reference groups. Second, we also utilize a developmental perspective. Third, we empirically model part of the process of educational and occupational aspiration development. Despite these similarities, the basis of our approach is quite distinct from those that underlie previous work. It is hoped that the differences in approach will lead to a better understanding of the development and role of aspirations.

This exploratory study of the formation and revision of educational and occupational goals among young men investigates the development of aspirations because of their social and personal significance. By doing so it examines aspects of career development that carry implications for the practice of counseling and the operation of educational systems. In the next section, the conceptual basis of our approach is described. Section III contains an empirical analysis of the process of goal formation, while Section IV is devoted to goal revision. The final portion of the study is devoted to a consideration of implications of our findings.

II CONCEPTUAL FRAMEWORK

We begin with the observation that living systems continuously face problems of adaptation. At any given point, the compromise between internal needs and the requirements of the environment is tentative. In this context, we submit that the development of educational and occupational orientations by youth not only involves adaptation but is a major part of the process of adapting to the culture.

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[6] Blau and Duncan (1962); Duncan, Featherman and Duncan (1972).

[7] Sewell and Hauser (1975).

[8] See also Rehberg and Hotchkiss (1973).

First of all, "aspirations" are conceived to be personal social-psychological attributes that are unobservable per se. At any given time, the aspirations held by an individual constitute a working hypothesis about the hopeful outcome of the compromise between (1) his interests, desires, and ideas and (2) his conception of the needs and demands of the larger socioeconomic system. Second, expressions of occupational and educational goals can be conceived to be the "readout," or "point estimate," that the individual produces concerning probable outcomes of his overall adaptation. Last, changes in goals over time can be regarded to be the result of other internal or external changes affecting the assessment of hopeful or probable outcomes.

Casting goal formation and revision in adaptation terms makes clear that it is a process extended in time. In this respect the formulation is congenial with theories of vocational development and career choice, particularly since previous work has emphasized the importance of compromise in vocational choice. This suggests that current thought on the process of adaptive behavior is relevant to the study of the development of aspirations and goals. We now present some analytic possibilities and implications of this conceptual point of view.

In a recent review of concepts relating to coping and adaptation, White identifies three crucial factors as universal prerequisites for successful adaptive behavior.[9] Briefly, these are:

1) the acquisition of information about the environment;
2) the maintenance of satisfactory internal conditions, both for processing information and for action; and
3) the preservation of autonomy; that is, the freedom to use one's repertoire in a flexible fashion.

As White explains, the presence of these necessary factors in situations requiring adaptive behavior facilitates enhancement and growth, or at least the avoidance of difficulties. Thus, the probability that behavior is adaptive is increased when these factors are present. It can therefore be useful to design models of the process of goal formation and revision incorporating measures that are related to these factors for adaptation. Indeed, incorporating such measures can provide a means of understanding such phenomena as (1) the relationship between socioeconomic background and aspirations, (2) what appears to be a lack of "realism" in the expressed goals of many youth, and (3) the remarkable instability over time in the goals expressed by youth.

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[9] White (1974).

Research on the determinants of educational and occupational goals documents the existence of a substantial relationship between the socioeconomic background of youth, on one hand, and both the level of their goals and their subsequent attainments, on the other.[10] In addition, previous research has shown that race is related to several aspects of goals.[11] The approach proposed here suggests that the goals expressed at any point (e.g., upon entering high school) are the outcome of an adaptive process which depends on factors of information, capacities, and constraints. Thus, an important question is the extent to which the measured "effects" of race and social class can be "explained" by means of the factors for adaptation.

At the same time, some authors have asserted that the goal levels of many youth, especially young blacks, are not "realistic."[12] The NLS data appear to support the assertion, in that large proportions of youth report exceedingly high educational and occupational goals (Tables 2.1 and 2.2). Over half of the high school students desire at least a bachelor's degree, and over half desire work at the professional or technical level, both of which are probably unrealistic when compared with the educational levels and kinds of work that adults actually obtain. The present approach suggests that it is possible to understand the apparent lack of realism and other "dysfunctional" attributes of goals in terms of an adaptive process.

Still another finding of previous research is that the patterns of goals expressed at different points in time frequently exhibit substantial "instability."[13] Again, data from the NLS appear to support this. Of those in high school at the time of (at least) two of the NLS surveys, nearly 40 percent changed the level of their educational goal between the initial and latest interview (Table 2.3) and nearly 60 percent changed occupational goals over the same time period (Table 2.4). The framework employed here suggests that goal stability per se is not particularly meaningful as a criterion measure.

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[10] Duncan et al. (1972); Sewell (1971); Sewell and Hauser (1975).

[11] Carter et al. (1972); Kuvlesky and Thomas (1971); Picou et al. (1972); Porter (1974).

[12] Carter et al. (1972); Kuvlesky and Thomas (1971).

[13] Astin (1967); Cosby et al. (1972); Gribbons and Lohnes (1969); O'Reilly (1973); Thomas and Jacob (1970).

Table 2.1 Level of Educational Goal of 1966 High School Students and Educational Attainment of Men 30 to 34 Years of Age in 1970, by Race

(Percentage distributions)

Level of educational goal or educational attainment	High school students, 1966, by grade					Men 30 to 34 years of age[b]
	Total or average	9	10	11	12	
	WHITES					
Total percent	100	100	100	100	100	100
Less than high school graduation	0^+	0^+	0^+	0^+	0	18
High school graduation	26	31	24	26	23	42
Junior college[a]	13	10	10	14	15	16
Bachelor's degree	44	46	47	43	40	11
Master's degree	10	5	10	10	12	5
Doctoral degree	8	8	8	6	10	8
Number of respondents	1,497	258	439	425	375	-
	BLACKS					
Total percent	100	100	100	100	100	100
Less than high school graduation	0^+	0	0^+	0^+	0	38
High school graduation	31	43	29	32	22	42
Junior college[a]	15	13	15	10	25	11
Bachelor's degree	44	35	50	49	39	5
Master's degree	5	3	4	5	7	2
Doctoral degree	4	5	2	4	8	2
Number of respondents	634	153	189	159	133	-

UNIVERSE: (a) Male high school students in the fall of 1966.
(b) Employed males 30 to 34 years of age in 1970, who had completed at least nine years of school. (Source: U.S. Bureau of the Census (1973), Table 11, pp. 213-28.)

[a] Includes those aspiring to (or having completed) 1 through 3 years of college and no degree.

[b] In the data for males 30 to 34 years of age, the title "Whites" is a misnomer, for the data actually refer to nonblacks.

0^+ Indicates nonzero value rounded to zero.

Table 2.2 Occupation Desired at Age 30 by 1966 High School Students and Occupational Assignment of Men 30 to 34 Years of Age, in 1970, by Race

(Percentage distributions)

Occupational goal or occupational assignment	High school students, 1966, by grade					Males 30 to 34 years old[a]
	Total or average	9	10	11	12	
	WHITES					
Total percent	100	100	100	100	100	100
Professionals, technicians	58	55	64	57	54	23
Managers	7	7	4	7	8	13
Clerks	3	3	3	3	2	7
Salesmen	1	2	1	1	1	8
Craftsmen	18	17	14	19	22	22
Operatives	3	4	3	3	2	17
Nonfarm laborers	1	2	2	1	1	3
Service workers	3	2	3	1	4	5
Farmers	3	3	2	4	2	2
Farm workers	1	1	1	1	2	1
Armed forces members	2	4	2	3	1	-
Number of respondents	1,174	179	346	336	313	-
	BLACKS					
Total percent	100	100	100	100	100	100
Professionals, technicians	50	43	55	55	43	10
Managers	5	5	7	2	5	4
Clerks	7	7	3	6	13	10
Salesmen	1	0	1	1	1	3
Craftsmen	21	28	17	23	18	17
Operatives	10	10	9	7	14	32
Nonfarm laborers	1	1	3	0+	1	11
Service workers	3	4	2	2	5	12
Farmers	1	0	0	2	0	0+
Farm workers	0+	1	1	0	0	1
Armed forces members	2	1	2	1	1	-
Number of respondents	509	115	154	127	113	-

UNIVERSE: See Table 2.1.

[a] In the data for males 30 to 34 years of age, the title "Whites" is a misnomer, for the data actually refer to nonblacks.

0+ Indicates nonzero value rounded to zero.

Table 2.3 Change in Educational Goal during High School Attendance

(Percentage distributions)

Educational goal, 1966	Educational goal in last of high school attendance							Number of respondents
	Total percent	Less than high school graduation	High school graduation	Junior college	Bachelor's degree	Master's degree	Doctoral degree	
Total or average	100	0^+	25	16	43	10	6	1,477
Less than high graduation	100	@	@	@	@	@	@	6
High school graduation	100	0^+	68[a]	18	12	1	0^+	424
Junior college	100	0	28	40[a]	29	1	1	172
Bachelor's degree	100	0	9	12	68[a]	8	4	688
Master's degree	100	0	2	4	33	54[a]	7	108
Doctoral degree	100	0	6	4	26	13	51[a]	79

UNIVERSE: Male youth in high school in both 1966 and (at least) one additional year.

a Overall percentage with same goal: 62.2 percent.

@ Percentage distribution not shown where base contains fewer than 25 respondents.

0^+ Indicates nonzero value rounded to zero.

Table 2.4 Change in Occupational Goal during High School Attendance

Job family[a] of occupational goal in 1966	Occupational goal in last year of high school attendance			Number of respondents
	Percent with occupational goal in same family[a]	Percentage and family[a] of most popular other category		
Total or average	42	-	-	1,333
Tool-using occupations	59	11	"Don't know"	221
Machines and equipment	30	25	Tools	30
Inspection	33	24	R & D	35
Vehicle operation	43	14	Tools	40
Farming	50	11	Tools	34
Sales	@	@	@	13
Clerical	22	22	Admin.	42
Personal services	@	@	@	6
Entertainment	48	13	Admin.	[illegible]
Protection	39	12	Admin.	3[illegible]
Health, education, welfare	47	12	"Don't know"	205
Administrative	36	14	H,E & W	125
Research and development	44	13	Admin.	200
"Don't know"	30	15	Admin.	272

UNIVERSE: See Table 2.3.

a The determination of whether the occupational goals which were recorded at the two interviews are different from one another depends on the level of detail with which each goal expression is recorded. For example, if each of the expressed goals were recorded into one of 400,000 occupational "titles", one would observe more change than had the goals been recorded into a scheme comprised of only ten "categories." Also, the volume of change depends on the logical basis of the "categories." This is illustrated by the fact that in the 1960 Census occupational coding system the titles "electrician" and "apprentice electrician" fall into different major categories ("Craftsmen, Foremen and Kindred Workers" and "Operative and Kindred Workers" respectively) and could conceivably be regarded to be different occupational goals. The system used here is an adaptation of one developed by Scoville (1969) through which the 1960 Census occupational codes are classified into categories that are relatively homogeneous with respect to promotion, substitutability and transferability. For another look at the use of this scheme, see Appendix Tables 2A.1 and 2A.2.

@ Percent not shown where base contains fewer than 25 respondents.

Specifically, inflows of new information, as well as changes in capacities or constraints, can stimulate adaptive responses on the part of individuals. There are many ways in which this could cause a revision in goals. For example, a youth who had desired to achieve a certain goal may learn more about its entry requirements--enough to cause him to decide against it. Or, he could learn more about an alternative opportunity and come to prefer it to his former goal. Such learning could arise from information that either supplements his stock of knowledge or corrects previous misinformation. In at least these ways, the observed instability of his goals over time may reflect an adaptive process. This also suggests the need to examine whether the ostensibly dysfunctional aspects of the goals expressed at one point (e.g., a lack of realism) are related to subsequent goal modification. If so, this too would permit the inference that the instability is a result of adaptation.

III GOAL FORMATION

We begin the analytic portion of this study by describing a series of models designed to investigate the process of goal formation. In so doing we consider not only the level of expressed goals, but also the confidence with which they are held, their realism, and the congruity of concurrently held educational and occupational goals. Using the data on high school students from the 1966 NLS interview, the following variables are selected to serve as the first criterion measures: (1) the level of educational goal ("How much more education would you like to get?"); and (2) the level of occupational goal ("What kind of work would you like to be doing when you are 30 years old?").[14] The former is measured in actual years of school while the latter is measured by the Duncan Socioeconomic Index of occupations.[15] Before introducing other criterion measures, the explanatory measures that are used to represent the factors of adaptation are discussed.

Information

The data contain a variety of measures which can be conceived to represent the availability of information for, or sources of influence on, the process of goal development by youth. First, a measure of the extent to which the home provides information is available in an index of the quantity and nature of reading materials (newspapers, magazines, and library cards); several authors have employed similar indices to represent the "richness" of the home environment.[16] Second, previous research suggests that alternative social structures in different communities provide differential exposure to role models for youth.[17] Thus, the characteristics of the area of residence in which the youth began adolescence (rural, small and medium-sized communities, large cities, and suburbs) can reasonably be considered to be related to differences in available information about careers.

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[14] Previous work distinguishes between occupational "aspirations" and occupational "expectations," the latter thought to be more constrained than the former by subjective assessment of the probability of attainment. On one hand, the question used in the NLS refers to unconstrained desires (i.e., ". . . would you like . . ."); on the other, it specifically refers to age 30, which may have generated conscious evaluations of the probability of attainment by that age. Thus, it is not entirely clear whether our measure of occupational goal is an "aspiration" or an "expectation" in the parlance of existing literature.

[15] Duncan (1961).

Next, the educational attainment of the high school students as of the first survey, as well as the extent of their work experience to that date, are included as proxies for sources of additional information. Last, and perhaps most importantly, a direct measure of the level of occupational information a youth possesses is available from a test administered during the 1966 NLS interview. Previous analysis has demonstrated the usefulness of the measure in other contexts;[18] the present use permits an assessment of its value in the study of goal development.[19]

Capacities

Conceptually, White's description of the capacity factor encompasses many diverse aspects of "internal conditions." In this study we identify only a single variable, which relates to cognitive skills (IQ). This is used to represent variation in the capacities of young men both for achievement (especially educational achievement) and for the ability to process information relating to the conscious development of educational and occupational career plans.[20]

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[16] Flanagan et al. (1964); Bachman (1970).

[17] For example, see Picou et al. (1972); Sewell (1964); Sewell and Orenstein (1965).

[18] Kohen and Breinich (1975); Parnes and Kohen (1975).

[19] We believe that this test of general occupational information is conceptually superior to measures of "vocational maturity" used in previous research. The latter, which "assess a boy's knowledge of education and training requirements for the occupations in which he is interested" (Super, Kowalski and Gotkin, cited in Gribbons & Lohnes, 1969), are conceptually too narrow for assessing the degree to which youth are informed about the diversity of opportunity in the society.

[20] The IQ variable originated from scores reported by the high schools attended by members of the sample. Scores are not available

Constraints

According to White, even with adequate levels of information and satisfactory internal conditions, "adaptive behavior may come to grief if freedom of action is not to some extent maintained."[21] Although the extent to which autonomy is maintained is not measurable directly, several available variables are used to explore opportunities and constraints, which in this context are opposite sides of the same coin. The first is per capita family income, since aspirations are expected to be constrained by the absence of adequate financial resources. Next, since environments rich with supportive interpersonal relationships are hypothesized to be conducive to freedom in goal formation, we use an index based on: perceived parental encouragement, encouragement from teachers and others in the school, and the college plans and actual behaviors of friends.[22]

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for the following groups: (1) those who had not completed the ninth grade by the time of the first survey, a group that the present study ignores; (2) those not signing a waiver form permitting the Census Bureau to request their scores; (3) those whose school responded but did not provide a score; and (4) those whose schools did not respond at all. Since the latter group of schools included a disproportionate number of private and Southern rural schools, and since our analyses are based only on respondents with complete information, the omission of cases from our analyses is not completely random.

[21] White (1974), p. 57.

[22] Previous research demonstrates the efficacy of such variables under the nomenclature of "influences of significant others." Our use of a summary index of supportiveness precludes replication of work which has considered separately the influence of parents (Hauser, 1971) and teachers (Carter et al. 1972; Williams, 1972). Indeed, the latter is not possible at all with the NLS data, for the data do not distinguish between encouragement received from teachers and that from other school personnel.

The details of the construction of the index are as follows. There are only four available questions considered to be relevant to the concept in question. The first is: "How much encouragement did your father give you to continue your education beyond high school?" The second and third are worded identically to the first except for the substitution of "mother" and of "teachers and other adults in your high school," respectively. The last is "How many of your friends plan to go to college, are actually attending college or have attended college?" All four items were coded with values 0 to 2 for "None" (or, "Few or none of them"), "Some," and "Much" (or, "Many of them"), respectively. The results of a principal component analysis show that a single factor accounts for nearly 70 percent of the variance

Third, an index of the "quality" of the high school attended as well as the racial composition of the school is used to reflect institutional influences. However, we are unable to specify a priori expectations for the direction of either of these relationships. In the case of the former variable, hypotheses can be advanced for either a positive, supportive role of high quality schools or a negative, depressing effect, which might result from the sharper competition with fellow students prevailing within such schools. In the case of the race variable, at least one previous study[23] concludes that both whites and blacks have higher goals in predominantly white, integrated schools than in completely segregated ones; our work provides an opportunity to review this important issue.[24]

Levels of Goals

Models incorporating the variables presented thus far are used to explore the antecedents and correlates of the levels of educational and occupational goals held by high school students. As shown in Table 2.5. the set of explanatory variables accounts for between one- and two-fifths of the variance in goal levels, and several of the relationships are worthy of discussion.

First of all, results from these models indicate that a very large part of the relationship between socioeconomic background and goal levels can be understood in terms of the adaptive process outlined above. As shown in Table 2.6, the association between socioeconomic level and goal level is dramatically weakened when the measures for

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in the set. Because the loadings on this factor are in the proportion 3:2 for father and mother, on the one hand, and for peers and school personnel, on the other, the summary index is defined as the weighted average score for each respondent (with weights of 3, 3, 2 and 2). The index is constructed only for those respondents providing answers to a majority of the items relevant to their particular circumstances. Thus, we require answers to at least three of four in almost all cases, but this is relaxed to at least two of three for respondents without a father since age 14.

[23] Knapp and Hammer (1970).

[24] The use of measures based on the high school attended by each respondent may introduce a problem with the representativeness of the sample analyzed in this study. Since the analyses were based on only those respondents whose records contained complete information, the nonrandom lack of data on school variables probably has the net results of underrepresenting those from low-quality schools. For more details, see Kohen (1973), Appendix C.

Table 2.5 Regression Results for the Levels of Educational and Occupational Goals, by Race

(Coefficients shown in percentage points)

(Absolute t-values in parentheses)

Explanatory variables^a	EDGOAL66^a				OCCASPDUNC66^a			
	WHITES		BLACKS		WHITES		BLACKS	
INFORMATION								
Residence, age 14:								
RES14RUR	(omitted group)		(omitted group)		(omitted group)		(omitted group)	
RES14SM	0.23*	(1.47)	1.05**	(2.62)	-0.11	(0.04)	8.52*	(1.35)
RES14LG	0.44**	(2.44)	0.95**	(2.38)	2.53	(0.86)	5.87	(0.99)
READING	0.19**	(2.80)	0.13	(1.12)	3.33**	(2.94)	5.33**	(3.03)
EDYRS66	0.03	(0.34)	0.29	(1.82)	-0.32	(0.26)	0.13	(0.05)
Work experience in high school:								
EXPERHS0	(omitted group)		(omitted group)		(omitted group)		(omitted group)	
EXPERHS1	-0.04	(0.26)	0.32	(0.85)	-2.76	(1.10)	-1.74	(0.32)
EXPERHS2	0.01	(0.10)	-0.21	(0.70)	-0.89	(0.38)	5.56	(1.18)
OCCINF	0.00$^+$	(0.16)	0.01	(0.55)	0.08	(0.47)	1.04**	(3.08)
CAPACITIES								
IQ	0.04**	(7.80)	0.04**	(3.80)	0.37**	(4.90)	0.49**	(3.13)
CONSTRAINTS								
INCPERCAP66	0.0001**	(2.18)	-0.0001	(0.53)	0.001	(1.23)	-0.002	(0.75)
HSQUAL^b	-0.05	(1.53)	-0.06	(1.07)	0.43	(0.86)	0.12	(0.13)
%BLACK:								
%BLKLOW^b	0.11	(0.71)	-0.65	(1.48)	3.66	(1.42)	0.05	(0.01)
%BLKMED^b	{omitted group}		(omitted group)		{omitted group}		(omitted group)	
%BLKHIGH^b			-0.88**	(2.44)			6.62	(1.19)
NONPUBLSCHL^b	0.48**	(2.02)	-0.78	(1.20)	6.12	(1.57)	-4.57	(0.41)
ENCOUR	1.12**	(9.95)	1.12**	(5.43)	8.93**	(4.78)	0.90	(0.27)
BACKGROUND								
SES*	0.02**	(2.78)	0.02	(0.71)	0.24**	(2.11)	0.22	(0.61)
Constant	8.10	(9.37)	6.40	(3.74)	-15.10	(1.05)	-45.68	(1.82)
$\bar{R}^2$	.39		.44		.22		.39	
F-ratio	30.89		9.20		11.78		6.82	
Number of respondents	666		156		534		135	
Dependent variable^c (mean, std. dev.)	15.31 1.93		14.69 2.00		61.55 25.32		53.17 27.08	

UNIVERSE: Male high school students in the fall of 1966.

a All variables are defined in detail in the Glossary.

b Statistical significance of regression coefficient based on two-tailed test.

c For mean and standard deviation of each explanatory measure, see Appendix Table 2A.3.

0^+ Indicates nonzero value rounded to zero.

* Statistically significant at .10 level.

** Statistically significant at .05 level.

Table 2.6 Relationships between Family Socioeconomic Background and Educational and Occupational Goals, by Race

Socioeconomic level of family background (SES*)	Level of educational goal (EDGOAL66)		Level of occupational goal (OCCASPDUNC66)	
	WHITES	BLACKS	WHITES	BLACKS
Gross relationship[a]	.33**	.23**	.28**	.29**
Net relationship[b]	.11**	.06	.09**	.06
Number of respondents	666	156	534	135

a Computed as the (zero order) correlation coefficient between the index of socioeconomic level of family background (SES*) and the level of goal.

b Computed as the partial correlation coefficient between the index of socioeconomic level of family background (SES*) and the level of goal, net of the effects of other variables representing factors of adaptation (from Models 1a and 1b, Table 2.5).

* Statistically significant at .10 level.

** Statistically significant at .05 level.

the factors for adaptation are controlled statistically; indeed, controlling for these factors, there is no net effect of background on goal level in the case of young blacks.

Among the variables used to represent the factors of adaptation, the IQ measure of capacities is strongly related to both types of goal. This could be seen to be an appropriate relationship for a social system that is believed to be meritocratic, at least to some extent. On the other hand, the results show that young men who are encouraged to continue schooling beyond the secondary level also possess higher educational goals, as do those beginning their teens in large urban areas. The latter relationships are not so strongly suggestive of adaptive behavior. As is shown below, a complementary analysis helps illuminate the nature of these associations.

Of course, it should be understood that the conceptual approach of this study does not necessarily imply an association between the factors of adaptation and levels of goals. Rather, the elements of successful adaptive behavior are regarded to be necessary (but not sufficient) conditions for the process of goal development. In other words, neither one of the dependent variables examined here is necessarily a measure of successful or superior adaptive behavior. Thus, for example, the failure of the OCCINF measure to exhibit a statistically significant relationship should not be taken to mean that occupational information plays no role in goal formation. Although we may expect that greater occupational information would lead to wise career choice, neither dependent variable is a measure of that.

Before proceeding further, it is instructive to note the findings obtained for both the quality index and the racial composition of the high school. In the case of the former, no net relationship was uncovered. In the latter, the attendance of whites at nearly all white schools (i.e., no more than 20 percent black students) is associated with somewhat higher goals, but the effect is statistically nonsignificant. For blacks, attendance at nearly all-black schools is related to lower educational goals, but has no effect on the level of occupational goals.

Other Aspects of Goal Formation

In order to gain a better understanding of the process of goal formation, it is necessary to consider more than simply the levels of goals, even though the development of other measures admittedly involves difficulties. For example, although we have shown earlier that high school students, as a group, express educational goals that are probably "unrealistically high," it is quite another matter to assert that the educational goal of any given young man is "unrealistically high" (except perhaps in an extreme case). As another example, although one may think of several truly impossible combinations of educational and occupational goals (e.g., "two-year college degree" and "physician"), it is quite difficult to judge the reasonableness of many educational-occupational combinations. In view of problems such as these, the definition and analyses of what we call "dysfunctional" attributes of goals must be recognized to be experimental in nature. Specifically, these attributes are: (1) incongruence between educational and occupational goals, (2) unrealism of educational goals, and (3) pessimism about educational goals.

Congruence   Since data on educational and occupational goals were collected in the same interview, it is of considerable interest to investigate the degree of technical congruity between the two. That is, to what extent does the educational goal "make sense" vis-à-vis the stated occupational goal? The role of the factors of information and capacities in the adaptive systems approach suggests the necessity for such a comparison. As one way of attempting this, we construct a measure that compares the educational goal with the level of education that is "required" for the expressed occupational goal.[25] The distribution of this measure is shown in Table 2.7.

According to these data, more than three-fifths of high school students had congruent educational and occupational goals. Among the remaining students, it is evidently more likely that an educational goal was high in relation to the occupational goal than that the

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[25] Educational "requirements" for occupations are in most cases impossible to determine with complete confidence. However, estimates can be derived from data collected in the 1970 Census, where the educational attainments of men aged 25 to 34 are reported by separate occupational categories (U.S. Bureau of the Census, 1973, Table 8, pp. 143-77). That is, the education of young adult incumbents can be used to infer educational "standards" for each occupational title. The educational standards used here take the form of a range of years of schooling for each occupational category. Thus, it is possible to determine for each respondent whether (a) his educational goal is "too low" for his stated occupational goal, (b) his goals are congruent, or (c) his educational goal is "too high."

Of course, despite the apparent simplicity of this procedure, the technical and conceptual difficulties are immense. For one thing, this scheme is based on the 1960 Census occupational coding system, which has the property that many of its elemental categories actually contain a wide variety of types of work, thereby ensuring measurement error in the procedure. Beyond this, although the occupational goal refers to the kind of work that the respondent desires to be doing at age 30, the educational goal contains no such age referent, making it possible for the recorded goals to appear to be incongruent even though the long-run plans of the respondent are completely consistent internally. Third, the educational goal may appear to be "too high" for the occupational goal but may simply reflect the respondent's knowledge of the historical trend of rising job "requirements." Last, it must be recognized that education is pursued for many purposes beyond that of employment.

Table 2.7 Congruence[a] of Educational and Occupational Goals, by Race and Grade Attending in 1966

(Percentage distributions)

Measure of congruence	WHITES					BLACKS				
	Grade attending 1966					Grade attending 1966				
	Total or average	9	10	11	12	Total or average	9	10	11	12
Total percent	100	100	100	100	100	100	100	100	100	100
Educational goal too low	10	11	10	9	11	8	5	11	8	5
Educational goal congruent	72	72	73	74	69	67	72	66	69	63
Educational goal too high	18	18	17	17	20	25	24	22	23	32
Number of respondents	1,167	178	345	335	309	506	114	154	126	112

UNIVERSE: Male high school students in the fall of 1966.

[a] This measure compares the level of educational goal with the level which is "required" for the occupational goal. See text and footnote 25.

educational goal was too low vis-à-vis the occupational goal. In addition, it is noteworthy that the data do not appear to support the hypothesis that goals are more congruent among high school upperclassmen than among underclassmen. However, these data are taken from a cross-section of the 1966 high school population; when longitudinal data are examined, it appears that the changes which occur in either educational or occupational goals during the high school years do indeed result in a tendency towards congruence among those with previously incongruent goals (Table 2.8).

In order to investigate the correlates of congruity, a multiple regression was performed. Specifically, we examine the likelihood that goals are incongruent in the sense that the reported educational goal is "too high." The results contain only one variable for which a statistically significant relationship is obtained for both blacks and whites: namely, high school students with substantial work experience are less likely to have incongruently high educational goals. Other than this instance, the results provide meager support for the hypothesis that this kind of goal inconsistency can be explained by the measures we have used (Table 2.9). Experimentation with a comparable analysis for the probability of educational goals being "too low" produced similarly disappointing results.[26] In spite of our inability to identify antecedents or correlates of goal incongruence, we find this measure useful for exploring the process of goal revision, as is shown below.

Realism of goals A second characteristic of the goals of high school students is the extent to which the goals are "realistic." To explore the realism of goals, the following procedure is employed. For each high school student, we predict a level of educational attainment on the basis of his background and other characteristics. An educational goal is then defined to be "unrealistically high" if his expressed goal is the completion of at least four years of college and the predicted level of educational attainment is less than one year of college.[27]

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[26] In this case, we had hypothesized that the incongruity would be related, at least, to the level of occupational information possessed by the youth, but the data do not support the hypothesis. For example, the (zero order) correlations between EDCONGRLOW and OCCINF are only +0.02 and -0.15 for whites and blacks, respectively.

[27] A regression equation is estimated using data for those who had already left school by the time of the intial NLS interview (see Appendix Table 2A.4). The regression coefficients are applied to each of those still in school to obtain a predicted level of educational attainment. Then, an educational goal is defined to be "unrealistic" if the respondent's goal is completion of at least a bachelor's degree and the prediction for the respondent is less than 12.5 years. In

Table 2.8 Comparison of the Congruence of Goals in 1966 and Goals in the Last Year of High School Attendance

(Percentage distributions)

Measure of congruence, 1966	Measure of congruence as of last year of high school				Number of respondents
	Total percent	Educational goal too low	Educational goal congruent	Educational goal too high	
Educational goal too low	100	25	61	14	86
Educational goal congruent	100	5	80	15	729
Educational goal too high	100	8	54	38	188

UNIVERSE: Youth in high school in both 1966 and in (at least) one additional year.

Table 2.9 Regression Results for the Congruence of Educational and Occupational Goals, by Race

(Coefficients shown in percentage points)

(Absolute t-values in parentheses)

Explanatory variables[a]	EDCONGRHIGH66			
	WHITES		BLACKS	
INFORMATION				
Residence, age 14:				
RES14RUR	(omitted group)		(omitted group)	
RES14SM	3.9	(0.85)	13.2	(1.07)
RES14LG	9.9*	(1.90)	16.7	(1.44)
READING	0.6	(0.29)	1.4	(0.40)
EDYRS66	2.9	(1.31)	4.8	(1.02)
Work experience in high school:				
EXPERHS0	(omitted group)		(omitted group)	
EXPERHS1	-3.1	(0.70)	-0.6	(0.06)
EXPERHS2	-9.7**	(2.32)	-15.8*	(1.71)
OCCINF	0.2	(0.80)	-1.1*	(1.67)
CAPACITIES				
IQ	-0.3*	(1.93)	0.4	(1.35)
CONSTRAINTS				
INCPERCAP66	0.0^{-}	(1.07)	0.0^{-}	(1.19)
HSQUAL	-0.3	(0.34)	-2.3	(1.32)
%BLACK:				
%BLKLOW	-0.4	(0.08)	-20.8	(1.54)
%BLKMED	{omitted group}		(omitted group)	
%BLKHIGH			-37.6**	(3.45)
NONPUBLSCHL	4.7	(0.69)	-21.5	(0.98)
ENCOUR	3.8	(1.17)	1.3	(0.20)
BACKGROUND				
SES*	-0.3*	(1.70)	-0.6	(0.78)
Constant	13.8	(0.55)	14.7	(0.29)
$\bar{R}^2$	.01		.08	
F-ratio	1.47		1.82	
Number of respondents	530		134	
Dependent variable[b] (mean, std. dev.)	19.0 39.2		24.3 43.0	

UNIVERSE: Male high school students in 1966.

a Statistical significance of all regression coefficients is based on two-tailed tests.

b For mean and standard deviation of each explanatory measure, see Appendix Table 2A.6.

0- Indicates negative nonzero value rounded to zero.

* Statistically significant at .10 level.

** Statistically significant at .05 level.

The distribution of this binary measure is shown in Table 2.10. It appears from the results that proportionally more young blacks than young whites have unrealistically high educational goals, for nearly two-fifths of the blacks express goals considered to be unrealistic while this is true for only one-fifth of the whites.

In order to explore the correlates of the incidence of unrealistic goals, multiple regression is used (Table 2.11). Perhaps the most interesting of the results are the relationships between having unrealistic educational goals, on one hand, and the measures for IQ and encouragement to continue schooling beyond high school (ENCOUR), on the other. It was shown above that IQ and ENCOUR is found to be related directly to a lack of realism. Such findings raise the possibility that encouragement can be dysfunctional. In a conceptually similar case, the results reported earlier suggested that urban youth possess higher goals than do rural youth; the present results suggest that such goals are also unrealistic in relation to the background and measured ability of the youth.

Confidence in goals Finally, since NLS respondents were asked how much schooling they *expect* to achieve as well as how much they desire, we can compare the level of "aspiration" with the level of "expectation" to study the confidence with which goals are held.[28] Previous research has indicated lower levels of confidence among blacks;[29] the present study provides an opportunity to examine this issue in greater depth.

According to the data, approximately three-fourths of high school students actually expected to attain their educational goals (Tables 2.12

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early exploratory work it was discovered that this prediction scheme produces not one prediction as high as 16.0 years of school (Appendix Table 2A.5). Further investigation revealed that application of the same technique to results published elsewhere (e.g., Duncan et al., 1972; Sewell and Hauser, 1975) also fails to produce predictions as high as 16.0 years, even for a hypothetical individual with characteristics selected at two standard deviations above the mean on every regressor variable. In addition, using functional forms other than a linear, additive model produced no noticeable improvement for predicted high values of schooling achievement. It is these considerations that underlie the definition of realism reported in the text.

[28] Similar variables have been used under various names: "anticipatory goal deflection" (Curry, 1970) and "aspiration-expectation disparity" (Caro and Pihlblad, 1965).

[29] Curry (1970); Ohlendorf (undated)

Table 2.10 Realism of Educational Goals, by Grade of School and Race

(Percentage distributions)

Realism[a] of 1966 educational goal	WHITES					BLACKS				
	Grade attending, 1966					Grade attending, 1966				
	Total or average	9[b]	10	11	12	Total or average	9[b]	10	11	12
Total percent	100	@	100	100	100	100	@	100	100	100
Realistic	81	@	82	80	80	64	@	62	67	62
Unrealistic	19	@	18	20	20	37	@	38	33	38
Number of respondents	1,043	10	350	368	315	279	3	97	87	92

UNIVERSE: High school students in 1966.

[a] For a definition of the measure of unrealistic educational goals, see text.

[b] The small number of cases shown above of young men attending the ninth grade is due to a high rate of missing data on the IQ variable used in the construction of the measure of realism. See text footnote 20.

@ Percentage distribution not shown where base contains fewer than 25 respondents.

Table 2.11 Regression Results for the Likelihood of Unrealistic Educational Goals, by Race

(Coefficients shown in percentage points)

(Absolute t-values in parentheses)

Explanatory variables[a]	WHITES		BLACKS	
INFORMATION				
Residence, age 14:				
RES14RUR	(omitted group)		(omitted group)	
RES14SM	3.9	(0.99)	41.1**	(3.48)
RES14LG	7.4*	(1.67)	34.0**	(2.86)
READING	-0.4	(0.27)	-1.6	(0.49)
EDYRS66	1.7	(0.93)	3.6	(0.76)
Work experience in high school:				
EXPERHS0	(omitted group)		(omitted group)	
EXPERHS1	-3.8	(1.05)	7.2	(0.66)
EXPERHS2	-3.3	(0.95)	7.5	(0.84)
OCCINF	0.3	(1.17)	-0.3	(0.49)
CAPACITIES				
IQ	-0.8**	(6.97)	-0.3	(0.93)
CONSTRAINTS				
INCPERCAP66	0.0+	(0.24)	-0.01*	(2.21)
HSQUAL	0.9	(1.29)	-2.2	(1.25)
%BLACK:				
%BLKLOW	-0.7	(0.17)	-22.7*	(1.76)
%BLKMED	(omitted group)		(omitted group)	
%BLKHIGH			-32.3**	(3.06)
NONPUBLSCHL	3.1	(0.52)	-30.8	(1.34)
ENCOUR	7.1**	(2.61)	23.3**	(3.67)
BACKGROUND				
SES*	-0.9**	(5.63)	-0.5	(0.65)
Constant	82.2	(3.91)	36.3	(0.73)
$\bar{R}^2$	.11		.18	
F-ratio	7.00		3.25	
Number of respondents	661		155	
Dependent variable[b] (mean, std. dev.)	18.6 38.9		39.8 49.1	

UNIVERSE: Male high school students in 1966.

a Statistical significance of all regression coefficients is based on two-tailed tests.

b For mean and standard deviation of each explanatory measure, see Appendix Table 2A.7.

0+ Indicates nonzero value rounded to zero.

* Statistically significant at .10 level.

** Statistically significant at .05 level.

Table 2.12 Educational Goal by Expected Educational Attainment and Race

(Percentage distributions)

Educational goal, 1966	Expected education, 1966[a]							Number of respondents
	Total percent	Less than HS diploma	HS diploma	Assoc. degree	Bachelor's degree	Master's degree	Doctoral degree	
	WHITES							
Associate degree	100	0+	27	71	2	0	0	185
Bachelor's degree	100	0+	10	8	79	1	0+	652
Master's degree	100	2	3	4	26	65	0	139
Doctoral degree	100	0	1	1	16	4	78	106
	BLACKS							
Associate degree	100	1	27	71	2	0	0	[illegible]
Bachelor's degree	100	0+	17	9	73	0	0+	273
Master's degree	100	0	0	9	13	78	0	24
Doctoral degree	100	0	14	13	9	0	64	24

UNIVERSE: High school students in 1966 who desire at least some college.

a The question "As things now stand, how much more education do you think you will actually get?", was asked only of those desiring at least some college.

0+ Indicates nonzero value rounded to zero.

and 2.13). Interestingly, for both whites and blacks, the data are not persuasive that higher goals are held less confidently than are lower goals (Table 2.12). Although the results for young whites seem to suggest that confidence decreases with grade in high school, the results for black reveal no such association (Table 2.13).

Multiple regression is also used to explore the correlates of the lack of confidence. The criterion measure in this case is the arithmetic difference between the goal and the expectation (PESSIMST); thus, higher values denote a greater lack of confidence in ultimate goal attainment. Among white high school students, negative associations are obtained with both the presence of reading material in the home and the extent of encouragement from parents, peers, and school personnel, as well as with socioeconomic level (Table 2.14). This suggests that rich and supportive environments serve to promote confidence that educational goals will be achieved. In contrast to the case of whites, the results for blacks contain virtually no statistically significant associations.

The variables that are related inversely to pessimism among whites were also reported earlier to be associated directly with the level of educational goal (Table 2.5). Furthermore, these same items are also directly associated with the level of education expected (Appendix Table 2A.9). Thus, among whites at least, rich and supportive environments seem to lead not only to higher goals, but also to goals which youth actually expect to achieve, even though such goals may be unrealistically high in view of their background and measured ability.

It is also interesting to review findings concerning the racial composition of the high schools attended by blacks. The present results suggest that blacks in nearly all-black high schools are more confident of achieving their educational goals than are those in integrated schools (Table 2.14). In results presented earlier, it appeared that black adolescents attending nearly all-black schools also are less likely than other blacks to possess goals which might be regarded either as unrealistically high (Table 2.11) or as high relative to their occupational goals (Table 2.9). In interpreting these results it should be recalled that the same group of black high school students have lower educational goals in general than other blacks (Table 2.5). Thus, although it is possible to conclude from the findings on goal formation among blacks in segregated high schools that their behavior is "adaptive," the evidence also supports the view that goal formation is constricted in general within this group.

The conceptual and empirical work presented thus far may be regarded as an experimental attempt to understand certain dimensions of the process of goal formation. However, attention has been focused on a cross-section of young men attending high school in the fall of 1966, while the available data permit a more extensive analysis. Moreover, although it is valuable to explore the correlates of unrealistic

Table 2.13 Confidence in Achieving Educational Goal, by Grade Attending and Race

(Percentage distributions)

Confidence of educational goal, 1966	WHITES					BLACKS				
	Grade attending, 1966					Grade attending, 1966				
	Total or average	9	10	11	12	Total or average	9	10	11	12
Total percent	100	100	100	100	100	100	100	100	100	100
Expects to achieve goal	77	83	79	76	72	73	65	79	69	76
Expects to achieve less than goal	23	17	21	24	28	27	35	21	31	24
Number of respondents	1,082	169	322	309	282	406	81	125	96	104

UNIVERSE: High school students in 1966 who desire at least some college.

Table 2.14 Regression Results for Pessimism about Achieving Educational Goals, by Race

(Absolute t-values in parentheses)

Explanatory variables[a]	WHITES		BLACKS	
INFORMATION				
Residence, age 14:				
RES14RUR	(omitted group)		(omitted group)	
RES14SM	0.15	(1.07)	-0.12	(0.26)
RES14LG	0.24	(1.51)	0.23	(0.47)
READING	-0.20**	(3.09)	0.13	(1.00)
EDYRS66	-0.03	(0.48)	-0.20	(1.09)
Work experience in high school:				
EXPERHS0	(omitted group)		(omitted group)	
EXPERHS1	-0.01	(0.10)	1.23**	(2.91)
EXPERHS2	0.16	(1.32)	-0.16	(0.48)
OCCINF	0.01	(0.69)	0.02	[illegible]
CAPACITIES				
IQ	-0.01*	(1.67)	0.00^+	(0.19)
CONSTRAINTS				
INCPERCAP66	0.00^-	(1.11)	0.00^-	(1.29)
HSQUAL	0.00^+	(0.00)	0.01	(0.13)
%BLACK:				
%BLKLOW	0.04	(0.29)	-0.38	(0.79)
%BLKMED	(omitted group)		(omitted group)	
%BLKHIGH			-0.72*	(1.93)
NONPUBLSCHL	0.14	(0.69)	-1.08	(1.46)
ENCOUR	-0.51**	(4.67)	0.07	(0.26)
BACKGROUND				
SES*	-0.02**	(2.91)	0.00^+	(0.15)
Constant	3.14	(4.14)	1.85	(0.91)
$\bar{R}^2$	.11		.04	
F-ratio	5.48		1.27	
Number of respondents	526		108	
Dependent variable[b] (mean, std. dev.)	0.56 1.20		0.72 1.38	

UNIVERSE: Male high school students in 1966 who desire to complete at least some college.

a Statistical significance of all regression coefficients is based on two-tailed tests.

b For mean and standard deviation of each explanatory measure, see Appendix Table 2A.8.

0^+ Indicates nonzero value rounded to zero.

0^- Indicates negative nonzero value rounded to zero.

* Statistically significant at .10 level.

** Statistically significant at .05 level.

goals, it is at least as useful to ascertain whether youth with unrealistically high goals are likely to lower them. Hence, we turn in the next section to the analysis of the revision of goals.

IV GOAL REVISION

Interest in the incidence and direction of goal revision leads us to examine the modification of educational goals (a) during the high school years (i.e., from 1966 to the last year of high school--usually but not always the senior year), and (b) during the two years after leaving (though not necessarily completing) high school. The latter provides an opportunity to investigate the impact of the freshman college year and/or the influence of the first year in the labor market.

Existing research contains conflicting evidence on the relationship between goal stability and socioeconomic background.[30] However, the approach taken in this study suggests several specific causes of observed goal instability: inflows of new information, or changes in capacities, opportunities, or constraints. While the NLS data do not permit direct analysis of these factors, we are able to use the measures of "dissonance" in the goals expressed in the base year. Thus, we analyze revision in educational goals during and after the high school years by means of the measures of incongruence, unrealism, and the lack of confidence in base-year goals. The hypothesis in each case is that, although youth change their educational goals over time for a multitude of reasons, a downward revision in goals is more likely for those whose base-year goal is found to be unrealistic, incongruent, or pessimistically held.

For the model applied to the high school years, it is necessary to add to the set of explanatory measures a control variable (YRSHS), which refers to the number of survey years during which a respondent was a high school student. Since the length of this period differs among the respondents, this measure "controls" for the number of years involved, on the ground that change is more likely to occur if the elapsed time is longer. For the model covering the two-year period following high school, the length of time elapsed is a constant for all respondents; however, a youth's enrollment and work status are not. Thus, this model contains controls for the extent to which each respondent was working and/or continuing to attend school (i.e., at the postsecondary level). The results of the analyses of revisions in educational goals are presented in Table 2.15, for change during the high school years, and in Table 2.16, for change during the two years following high school. In each case, the criterion measure is a dichotomous variable indicating downward change in the educational goal.

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[30] For example, compare results from Kuvlesky and Thomas (1971) to those of O'Reilly (1973) or Cosby et al. (1972).

Table 2.15 Regression Results for the Likelihood of Downward Revision of Educational Goals during High School, by Race

(Coefficients shown in percentage points)

(Absolute t-values in parentheses)

Explanatory variables	EDGOALDWN			
	WHITES		BLACKS	
Incongruity, 1966				
ENCONGRHIGH	22.0**	(6.01)	-3.8	(0.62)
ENCONGRUENT	(omitted group)		(omitted group)	
ENCONGRLOW	1.6	(0.33)	-0.1	(0.01)
UNREALSTC66	4.8*	(1.53)	22.0**	(4.71)
PESSIMST66	7.0**	(6.33)	9.3**	(5.07)
YRSHS	3.5**	(2.07)	2.6	(0.96)
SES*	-0.5	(0.97)	0.5	(0.43)
Constant	11.8	(1.70)	0.6	(0.05)
$\bar{R}^2$	.10		.15	
F-ratio	19.49		11.12	
Number of respondents	979		332	
Dependent variable[a] (mean, std. dev.)	19.3 39.5		24.3 43.0	

UNIVERSE: Youth in high school in both 1966 and at least one additional year.

a For means and standard deviations of the explanatory variables, see Appendix Table 2A.10.

* Statistically significant at .10 level.

** Statistically significant at .05 level.

Table 2.16 Regression Results for the Likelihood of Downward Revision in Educational Goals after High School, by Race

(Coefficients shown in percentage points)

(Absolute t-values in parentheses)

Explanatory variables	EDGOALDWN			
	WHITES		BLACKS	
Incongruity, base year				
EDCONGRHIGH	16.7**	(4.10)	11.7**	(1.97)
EDCONGRUENT	(omitted group)		(omitted group)	
EDCONGRLOW	-9.0**	(1.68)	-21.2**	(1.92)
UNREALSTC (base year)	11.4**	(3.46)	9.7**	(1.68)
PESSIMST (base year)	2.0*	(1.38)	5.3**	(2.78)
WKSWORKPOSTHS	-0.1	(0.93)	-0.1	(0.80)
Enrollment status				
ENRPOSTHS=0	(omitted group)		(omitted group)	
ENRPOSTHS<1	-5.2	(1.04)	-24.0**	(2.97)
ENRPOSTHSC1	-1.8	(0.21)	-21.3*	(1.50)
ENRPOSTHSC2	-27.8**	(6.76)	-29.4**	(4.04)
SES*	1.2	(1.59)	1.1	(0.76)
Constant	21.8	(2.05)	18.4	(1.24)
$\bar{R}^2$	.13		.15	
F-ratio	12.86		5.23	
Number of respondents	687		209	
Dependent variable[a] (mean, std. dev.)	23.2 42.2		21.7 41.3	

UNIVERSE: Youth leaving high school between 1966 and 1971 and interviewed at the second survey after leaving high school.

a For means and standard deviations of the explanatory variables, see Appendix Table 2A.11.

* Statistically significant at .10 level.

** Statistically significant at .05 level.

To summarize, the primary purpose of the analyses is to discover whether incongruent, unrealistic, and pessimistically held base-year goals are related to subsequent downward revisions in goals. The data provide an affirmative response in nearly every case for both whites and blacks. The empirical analysis of goal formation reported in the preceding section did not always yield results supporting our hypotheses about the antecedents or correlates of the dysfunctional attributes of goals held by high school students. Nevertheless, based on the findings reported here, it appears that once the dysfunctional aspects emerge, goal modification frequently follows. These findings permit the inference that the instability of educational goals is at least in part the result of an adaptive process.

As for the remaining variables in these models, the case of family background is most noteworthy. Although not shown here, the gross relationship between goal change and socioeconomic level suggests that young men from advantaged families are relatively less likely to lower their goals during either period studied. The present results indicate no such association after controlling for the dissonance measures. In addition, the various other control measures performed substantially as expected: in the high school model, downward change is more likely over longer periods, at least among whites; in the post-high school model, downward change is less likely among those continuing schooling, even though it is not found to vary with the extent of work experience.

V SUMMARY AND CONCLUSIONS

Following an approach based on theories of adaptive behavior, this study has examined the process of formation (and revision) of educational and occupational goals. Beginning with cross-sectional analyses, the models explained 20 to 40 percent of the variation in conventionally defined levels of these goals, using explanatory measures representing the adaptive factors of information, capacities, and constraints. Although the measure of capacity (IQ) was most predominantly related to goal levels at a point in time, measures of information (e.g., amount of schooling, availability of reading material in the home) and of opportunities and constraints (e.g., encouragement by parents, school personnel and peers) also contributed to explaining variation in levels of aspiration.

Importantly, the findings indicated that the net effects of social class on aspiration levels are far smaller than is implied by the gross relationships. Indeed, among young black high school students the net relationship was not significantly different from zero. The obvious implication is that emphasizing the effects of social class upon goal formation is ill-advised; it may obscure the influence of factors associated with social class whose relationship to aspirations is theoretically more interpretable, and which are also more amenable to educational policy. It is essential to extricate these factors (e.g., income level, availability of cognitive and affective supports at home) from the rather amorphous concept of family background.

Turning in a more experimental direction, the adaptive factors were used in cross-sectional analyses of three measures of what we have called "dysfunctional" attributes of goals: namely, (1) incongruence between educational and occupational goals, (2) unrealism of educational goals, and (3) pessimism about educational goals. According to our operational definitions of these attributes, about two-fifths of the 1966 high school students expressed educational and vocational goals that were incongruent, somewhat more than one in five held unrealistically high educational aspirations, and about one in four was pessimistic about achieving his educational goal. Although the regression analyses were less than overwhelmingly successful in identifying the sources of variation in these constructed measures (i.e., the $\bar{R}^2$'s were well below .20), several of the findings merit discussion.

First, while growing up in a large urban area was associated with decidedly higher educational and occupational goals, the evidence is that these goals are likely to be incongruent with each other and unrealistically high. Thus, even though there are doubtless more information-transmitting media in the major metropolitan centers of the United States than outside such areas, it is still an open question whether urban youth are actually "better informed" than other youth for decisions about schooling and careers. Second, while work experience gained during high school was not found to be related to goal level, it is notable that high school youth with considerable work experience are less likely, all other things equal, to express educational and occupational goals that are incongruent with one another.

Third, consistent with a priori expectations, the measure of information-processing capacity (IQ) exhibited inverse relationships with the dysfunctional attributes of goals. That is, more able students not only expressed higher goals, but at least among young whites were also more likely to profess congruent and realistic goals and were more optimistic about being able to achieve their goals. Fourth, it is worthy of note that young black men attending segregated (i.e., nearly all black) public high schools were found to express more congruent and realistic educational goals than their counterparts in integrated high schools. Likewise, the former were less pessimistic about attaining their goals. However, the most important finding may be that the same black students from segregated schools expressed lower goals overall than their counterparts. Finally, although findings concerning the impact on goal levels of encouragement by significant others are consistent with previous research, the data unexpectedly indicated that this encouragement also can result in the formation of unrealistically high educational aspirations.

The last portion of the analytic work was designed to take fuller advantage of the longitudinal nature of the NLS data by investigating downward revisions of goals over time. Following a subset of young men through their high school years and another subset for two years after leaving high school, the data clearly revealed that goals do get modified in response to incongruity and lack of realism. These results support the general conceptualization of educational and occupational goal formation as an adaptive process.

It is important to consider some possible policy implications of these findings, especially as they may relate to the practice of counseling and to the operation of educational systems. What do our results, showing average relationships that prevail among variables, offer to school personnel whose mission is to foster the overall human development of individual students?

While the results have positive implications, there are two types of pitfalls to be avoided. First, we would caution against a literal interpretation of some of the findings. For example, given the way in which we have evaluated the realism of a youth's educational goal, it is clear that "unrealistically high" goals do not inevitably lead to disappointment; they may produce high achievement. As another example, our measure of goal incongruence is based exclusively on the instrumental value of education in preparing a young man for his desired occupation. Thus, to characterize a young man as having "incongruent" goals may mean merely that he has consciously and logically selected a "high" educational goal for its value outside his work life.

Second, some of our findings must be considered jointly. For example, we have shown that blacks in segregated high schools were *less* likely than their peers to (1) have *incongruent* goals, (2) have *unrealistically high* educational goals, and (3) *lack confidence* in their ability to achieve their goals. However, when these results are considered in conjunction with the fact that blacks in segregated schools tend to have *lower* goals than other blacks, the appropriate conclusion is that racially segregated high schools have a *constricting* rather than a favorable influence on goal formation.

In our opinion, the findings have supported the view that goal development is an adaptive process. This affirmation would suggest that no great haste is required either to persuade adolescents to lower "unrealistic" goals, or to force a choice upon undecided youth. The evidence that a developmental process is at work may be conceived as providing support for programs that promote the continued exploration of available options and of students' own values and interests.

REFERENCES

Astin, H. "Patterns of Career Choices Over Time." Personnel and Guidance Journal 20 (February 1967):541-46.

Bachman, J.G. Youth in Transition (Vol. II): The Impact of Family Background and Intelligence on Tenth-Grade Boys. Ann Arbor: Survey Research Center, Institute for Social Research, University of Michigan, 1970.

Blau, P.M., and Duncan, O.D. The American Occupational Structure. New York: John Wiley and Sons, 1967.

Blau, P.M.; Gustad, J.W.; Jessor, R.; Parnes, H.S.; and Wilcock, R.C. "Occupational Choices: A Conceptual Framework." Industrial and Labor Relations Review 9 (1956):531-43.

Caro, F.G., and Pihlblad, C.T. "Aspirations and Expectations: A Re-examination of the Bases for Social Class Differences in the Occupational Orientations of Male High School Students." Sociology and Social Research 49 (1965):464-75.

Carter, T.M.; Picou, J.S.; Curry, E.W.; and Tracy, G.S. "Black-White Differences in the Development of Educational and Occupational Aspiration Levels." Paper presented at meetings of Southern Sociological Association, New Orleans, 1972.

Chapman, D., and Volkman, J. "A Social Determinant of Level of Aspiration." Journal of Abnormal and Social Psychology 34 (1939):225-38.

Cosby, A.G.; Dietrich, K.T.; and White, S. "The Dynamics of Occupational Expectations: A Partial Test of Ginzberg's Theory." Paper presented at meetings of Rural Sociological Society, 1972.

Curry, E.W. "A Least-Squares Analysis of Variance of Occupational Projections and Anticipatory Occupational Goal Deflection." Master's thesis, Louisiana State University, 1970.

Duncan, O.D. "A Socioeconomic Index for All Occupations." In A.J. Reiss (ed.), Occupations and Social Status. New York: Free Press of Glencoe, 1961.

Duncan, O.D.; Featherman, D.L.; and Duncan, B. Socioeconomic Background and Occupational Achievement. New York: Seminar Press, 1972.

Flanagan, J.C. et al. Project TALENT: The Identification, Development, and Utilization of Human Talents. Pittsburgh: University of Pittsburgh, 1964.

Ginzberg, E.; Ginsburg, S.W.; Axelrod, S.; and Herma, J.L. Occupational Choice: An Approach to a General Theory. New York: Columbia University Press, 1951.

Gribbons, W.D., and Lohnes, P.R. Career Development from Age 13 to Age 25--Final Report. Washington, D.C.: U.S. Department of Health, Education and Welfare, 1969.

Hauser, R.M. Socioeconomic Background and Educational Performance. Washington: American Sociological Association, 1971.

Herriott, R.E. "Some Social Determinants of Educational Aspirations." Harvard Educational Review 33 (1963):155-77.

Holland, J.L. Making Vocational Choices: A Theory of Careers. Englewood Cliffs, N.J.: Prentice-Hall, 1973.

________. The Psychology of Vocational Choice. Waltham, Mass.: Blaisdell Publishing Co., 1966.

________. "A Theory of Vocational Choice." Journal of Counseling Psychology 6 (1959):35-45.

Kahl, J.A. "Educational and Occupational Aspirations of 'Common Man' Boys." Harvard Educational Review 23 (1953):186-203.

Knapp, M., and Hammer, E. "Racial Composition of Southern Schools and Adolescent Educational and Occupational Aspirations and Expectations." Paper presented at meetings of the Association of Southern Agricultural Workers, 1970.

Kohen, A.I. "Determinants of Early Labor Market Success Among Young Men: Race, Ability, Quantity and Quality of Schooling." Mimeographed. Columbus: Center for Human Resource Research, The Ohio State University, 1973.

Kohen, A.I., and Breinich, S.B. "Knowledge of the World of Work· A Test of Occupational Information for Young Men." Journal of Vocational Behavior 6 (1975):133-44.

Kuvlesky, W.P., and Thomas, K.A. "Social Ambitions of Negro Boys and Girls from a Metropolitan Ghetto." Journal of Vocational Behavior 1 (April 1971):177-87.

Lever, M.F. "Selected Occupational Status Projections of Southern Youth: An Analysis by Sex, Race, and Socioeconomic Status." Master's thesis, Texas A & M University, 1969.

Merton, R.K., and Rossi, A.K. "Contributions to the Theory of Reference Group Behavior." In R.K. Merton, Social Theory and Social Structure. New York: Free Press, 1957.

Ohlendorf, G.W. "Educational Goals and Expectations of Rural Youth in East Texas." Texas Youth Study Report #1. College Station: Department of Agricultural Economics and Rural Sociology, Texas A & M University, n.d.

O'Reilly, P. *Predicting the Stability of Expressed Occupational Choices of Secondary Students.* VDS Monograph No. 13, University Park: Pennsylvania State University, Department of Vocational Education, 1973.

Parnes, H.S., and Kohen, A.I. "Occupational Information and Labor Market Status: The Case of Young Men." *Journal of Human Resources* 10 (Winter 1975):44-55.

Parnes, H.S.; Miljus, R.C.; Spitz, R.S.; and Associates. *Career Thresholds: A Longitudinal Study of the Educational and Labor Market Experiences of Male Youth*, Vol. 1. Manpower Research Monograph No. 16. Washington: U.S.G.P.O., 1970.

Picou, J.S.; Curry, E.W.; Olivero, G.; and Cosby, A.G. "The Social Psychologies of Blacks and Whites: Different Paths to Educational Achievement Expectations." Paper presented at 1972 meeting of Southern Sociological Society.

Porter, J.N. "Race, Socialization and Mobility in Educational and Early Occupational Attainment." *American Sociological Review* 39 (June 1974):303-16.

Rehberg, R.A., and Hotchkiss, L. "Early Educational Expectations as a Critical Variable in the Educational Attainment--Family of Origin Sequence." Mimeographed, 1973.

Roe, A. *The Psychology of Occupations*. New York: Wiley & Sons, 1956.

Scoville, J.G. *The Job Content of the U.S. Economy 1940-1970*. New York: McGraw-Hill Book Company, 1969.

Sewell, W.H. "Community of Residence and College Plans." *American Sociological Review* 29 (1964):24-38.

__________. "Inequality of Opportunity for Higher Education." *American Sociological Review* 36 (October 1971):793-809.

Sewell, W.H., and Hauser, R.M. *Education, Occupation, and Earnings*. New York: Academic Press, 1975.

Sewell, W.H., and Orenstein, A.M. "Community of Residence and Occupational Choice." *American Journal of Sociology* 70 (1965):551-63.

Super, D.E. *The Psychology of Careers*. New York: Harper & Brothers, 1957.

__________. "A Theory of Vocational Development." *American Psychological Review* 8 (1953):185-90.

Super, D.E.; Kowalski, R.S.; and Gotkin, E.H. *Floundering and Trial after High School*. New York: Teachers College Press, Columbia University, 1967.

Thomas, K.A., and Jacob, N.L. "A Longitudinal Analysis of Change in Occupational and Educational Orientations of East Texas Boys: A Racial Comparison." Paper presented at meetings of Rural Sociological Society, 1970.

Tiedeman, D.V., and O'Hara, R.P. *Career Development: Choice and Integration*. New York: College Entrance Examination Board, 1963.

U.S. Bureau of the Census. *Census of Population: 1970. Subject Reports: Educational Attainment*. Final Report PC(2)-5B. Washington, D.C.: U.S. Government Printing Office, 1973.

__________. *Census of Population, 1970. Subject Reports: Final Report PC(2)-7A. Occupational Characteristics*. Washington: U.S. Government Printing Office, 1973.

White, R.W. "Strategies of Adaptation: An Attempt at Systematic Description." In G.V. Coelho, D.A. Hamburg, and J.E. Adams, *Coping and Adaptation*. New York: Basic Books, 1974.

Williams, T.H. "Educational Aspirations: Longitudinal Evidence on Their Development in Canadian Youth." *Sociology of Education* 45 (Spring 1972):107-33.

CHAPTER III

THE LABOR MARKET EFFECTS OF INVESTMENT IN HUMAN CAPITAL*

I INTRODUCTION

From the very beginning of the National Longitudinal Surveys, the data collection efforts for the cohort of young men have been guided by the desire to gain better understanding of the connection between education and work. The intervening years have brought continued advances both in theory and in methods of analyzing the relationship of investments in human capital to labor market success, and this has tended to facilitate the achievement of the goals of the NLS. However, the exceptional social, demographic, and economic forces prevailing during the period under study have greatly increased the difficulties of performing such research, leaving open the question of whether the theory and the tools are, even yet, entirely adequate for the task.

For one thing, the process of labor market entry among the NLS young men was affected in many ways by the war in Southeast Asia, not only by the need for military manpower but also by the war-related prosperity, inflation, and subsequent economic downswing. For another, because more than half of the NLS cohort is part of the post-World War II "baby-boom," they have come of age during a time when both the schools and the labor market have been struggling to accommodate the record numbers of these young men.[1] For example, the number of males aged 20 to 24 in 1972 was fully three-fifths larger than in 1960.[2] Moreover, these young men have continued schooling at record rates; while the size of the cohort increased by 60 percent in the dozen years since 1960, the volume of enrollments and of new bachelor's degrees expanded by more than twice the rate of the population increase.[3]

A contention of some recent research is that these forces have led to a decline in the economic value of college education after 1969.

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*This chapter was written by John T. Grasso and Steven C. Myers.

[1] According to Johnston (1976, p. 164): "the aging of the baby-boom cohorts promises to give rise to a succession of strains and imbalances in all or most of the major functional and institutional sectors of the society over the span of the next 50 to 60 years."

[2] Derived from Manpower Report of the President (1975), pp. 204-06.

[3] Derived from Manpower Report of the President (1975), p. 256; National Center for Educational Statistics (1976), p. 197.

Indeed, some interpretations have been advanced unequivocally:

> ⌈The⌉ golden age of higher education came to an abrupt end at the outset of the 1970s, when the 25-year boom in the college job market withered into a major market bust.[4]

At the same time, evidence has been cited to indicate a trend toward underutilization of education and skills in the labor market:

> Increasing numbers of highly qualified workers are unable to find jobs that require their skills and training. Thus, a large and growing number of individuals are forced to take jobs that can be performed just as adequately by workers who have far lower levels of educational attainment.[5]

In short, the potential impact on the adolescence and early adulthood of the NLS young men of powerful social, demographic, and economic forces, not to mention the civil disorder and campus unrest that have distinguished this period, should not be overlooked. Accordingly, this study explores the role of human capital investment with careful regard to the character of the era. The approach involves two interrelated steps. The first analyzes the labor market status of the young men as of 1971, when they were 19 to 29 years of age. The second is focused upon new labor market entrants, and compares those leaving school during a relatively good economic period (1966-1968) with those whose labor market entry occurred during less favorable times (1969-1971). Throughout the analyses, racial differences are examined whenever sample sizes permit.

The next section contains a brief review of the concept of investment in human capital and its relevance to male youth. Section III describes and presents the results of an analysis of cross-sectional data for 1971. Section IV is devoted to the comparative analysis of new labor market entrants. The study concludes with a summary of the findings and a discussion of their policy implications.

II HUMAN CAPITAL AND THE CASE OF YOUNG MEN

In the past 15 years, substantial theoretical and empirical work has been devoted to the concept of human capital.[6] The concept derives from the view that many human activities involve direct and indirect costs in one or more periods and are associated with benefits received over time. Such activities bear resemblance to investments in physical capital and can be analyzed for their "payoff" both to individuals and to society at large.

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[4] Freeman and Hollomon (1975), p. 24.

[5] O'Toole (1975b), p. 26.

[6] See Becker (1962, 1964, 1975); Hansen (1970); Juster (1975); Kiker (1971); and Wykstra (1971a, 1971b).

Although the present study builds upon earlier work, it is in some ways distinct. For one thing, the fact that it relates exclusively to young workers frees it from some of the methodological problems that confront studies covering wider age ranges.[7] Moreover, as compared with previous studies, this one employs a broader perspective on payoffs to investment in human capital by using a variety of related, yet distinct measures of labor market success. While presenting the details of our approach, we include a brief discussion of previous research.

Schooling

The role of education as an investment in human capital has received substantial attention in the literature.[8] Even among groups with relatively low levels of educational attainment, positive relationships have been found between years of schooling and measures of labor market status.[9] Even so, there are important aspects of schooling that remain to be studied systematically. The richness of the NLS data allows consideration of more dimensions of schooling than has been possible in most previous studies.

Schooling should be viewed as more than a quantity of homogeneous units. It has been shown empirically to be useful to distinguish among the types of formal educational programs at both the secondary[10] and postsecondary[11] levels. Second, recent work suggests that differences in quality of schooling are important, although this appears to be less the case at the high school level[12] than beyond.[13] Third, it can be useful to explore "credentials" effects--i.e., the impact of diplomas and degrees apart from the effects of the number of years of school completed.[14] Thus, in order to account for the labor market effects of schooling more completely, this study considers not only the quantity completed, but also the type and quality of schooling achieved.

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[7] From the perspective of the literature on human capital, the data used in this study refer to the steep, upward-sloping portion of the traditional age-earnings profile, which has at least two methodological implications. First, as will be shown below, the data are amenable to analysis with linear rather than nonlinear models. Second, our results depend less on assumptions which are frequently necessary with cross-sectional data for all workers (e.g., concerning the absence of "vintage" effects, or relating to the long-term secular rise in educational attainment).

[8] Becker (1964); Hansen (1963); Hanoch (1967); Kohen (1973); Mincer (1975).

[9] Andrisani (1973); Danziger (1975); Hansen, Weisbrod and Scanlon (1970, 1972).

[10] See, for example, Grasso (1975).

Training

A second major form of investment in human skills is formal occupational training following regular school. Training in company-sponsored programs, apprenticeships, business and technical school programs, and correspondence programs constitutes an important vehicle for the development of career skills,[15] even though this has not always been found to be profitable.[16] Investigations of the possible substitutability of such training with on-the-job experience also have been undertaken.[17] One of the purposes of this study is to compare the effects of different kinds of training on labor market success. The NLS data permit separate analysis of various kinds of civilian training, and also enable us to compare the effects of civilian and military training.

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[11] See, for example, Ashenfelter and Mooney (1969); Holtmann and Bayer (1970); Johnson and Stafford (1974); and Reed and Miller (1970).

[12] See, for example, Kohen (1973).

[13] Solmon (1973); Taubman and Wales (1975); Wachtel (1975).

[14] By a "credentials" effect we mean, for example, that the completion of the senior high school year--in which a diploma is received--may have a greater effect than completion of the freshman, sophomore, or junior high school years. Testing for such an effect involves a test for non-linearity in the relationship between schooling and a criterion measure. In fact, our desire to investigate the existence of "credentials" effects provides only one reason for examining schooling in other than a strictly continuous form in a linear relationship. Another reason is our dissatisfaction with the typical practice of encoding "years of school" into a variable ranging from 0 to 18, because the differences between 16 (typically a college graduate), 17 (usually denoting the Master's level) and 18 (e.g., Ph.D., M.D.) are not at all representative of yearly intervals of time invested.

[15] Carnegie Commission on Higher Education (1973b).

[16] Adams (1975); Freeman (1974); Kalachek and Raines (1976); Somers et al. (1971); Wilms (1974).

[17] Foster (1970); Horowitz and Hernnstadt (1969); Marshall et al. (1973); Maton (1969).

Labor Market Experience

Previous studies have developed and refined methods of investigating the role of on-the-job training and learning.[18] Empirical tests of the importance of different kinds of experience have demonstrated variations by type, especially between general and firm-specific experience.[19] A review of existing literature shows that "general and labor market experience" has been a difficult concept to measure. Often, due to data limitations, only crude proxies for potential labor market experience have been used.[20] Fortunately, the NLS data permit direct measurement of potential civilian labor market experience following completion of school--that is, the length of time elapsed since the school-leaving date, minus the length of time served in the armed forces.[21]

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[18] Becker (1964); Mincer (1962, 1974); Rosen (1972); Scoville (1972).

[19] Hansen and Weisbrod (1973).

[20] Thus, debates have arisen concerning the proper interpretation of results based on "AGE" as well as on "AGE-EDUC-X" where X is some constant denoting pre-school years. For an illuminating exchange on this, see Chiswick (1972) and Hansen, Weisbrod, and Scanlon (1970, 1972). Another is found is Rosenzweig and Morgan (1976), Blinder (1976), and Rosenzweig (1976).

[21] An advantage of this method is that the amount of postschool labor market exposure is measured directly. By contrast, the variable "AGE-EDUC-6," for example, is based on the assumption that a year of schooling is achieved for each year of age. Thus a high school dropout who has completed the eleventh grade is assumed to possess one more year of work experience than a high school graduate. Several reasons suggest this is not always true: not only was the dropout likely to be older at the completion of the eleventh grade than was the graduate when he completed the same grade, but also the dropout may have attended a portion of the senior high school year. On the other hand, there is a disadvantage to both approaches: even though the influence of work experience acquired during school has been explored in an investment context (Carroll, 1970) and as an offset to schooling costs (Parsons, 1974), neither approach accounts in an explicit way for work experience prior to leaving school.

Military service is another potentially important kind of experience. In this volume, the role of experience gained in the military receives major attention in Chapter VI. For purposes of the present chapter, because potential experience is defined net of military service, the total number of months spent in the armed forces is used to account separately for such experience. A third important kind of experience is the length of service with an employer (i.e., "tenure"), which can be useful as a proxy for firm-specific training. The availability of measures in the NLS for all three types of experience permits their use jointly[22] and facilitates comparison of the importance of firm-specific, general, and military experience.

Personal Characteristics

In order to isolate the effects of factors such as education, experience, and training on the labor market status of young men, it is necessary to control statistically for some of the other characteristics of the respondents. This is required in order to avoid attributing to the human capital investment the effect of characteristics that are correlated with both the human capital factors and labor market success. It is well known, for example, that intelligence is related to the amount of education a young man acquires; moreover, it is reasonable to suppose that for any given level of human capital investment, level of intelligence will be associated with labor market success.[23] In addition to the usual measure of intelligence (IQ),[24] the NLS test of general occupational knowledge[25] is used as a control for labor market information. The use of both items together permits "partialling out" the effects of "ability" on labor market success.[26]

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[22] As will be shown below, our formulation resembles one used by Sandell and Shapiro (in press) in that: the regression coefficient for job tenure can be interpreted as the return to firm-specific training (since the regression holds general experience constant) and the coefficient for years of labor force experience can be interpreted as the return to general training (since the length of firm-specific training is held constant).

[23] Griliches and Mason (1972); Hause (1975); Kohen (1973); Solmon (1973b); Wachtel (1975).

[24] The IQ variable is based upon data collected in a special mailed survey of high schools attended by the respondents; see Kohen (1973), Appendix A.

[25] See Grasso (1975): Griliches (1976); Kohen and Breinich (1975); Parnes and Kohen (1975).

[26] From one point of view, the NLS measure of occupational knowledge can be considered to be a result of schooling, as in Parnes and Kohen

Previous work indicates that the role of socioeconomic level of the parental family may be similar to that of IQ in that its omission from the analysis imparts a bias to the measurement of the effects of the principal human capital variables;[27] we use a measure developed by Kohen to account for such effects.[28] Still another influence on labor market success that must be controlled if the pure effects of education, training, and experience are to be ascertained is health. For this purpose we use a measure indicating the presence of work-limiting health problems.

Environmental Influences

Thus far the discussion has been confined to characteristics of individuals, but situational characteristics are clearly relevant to the labor market behavior of workers, and may also be correlated with the human capital variables that are of principal interest. Although information on the latter is somewhat limited in the NLS data, proxies for urbanization and for regional price differences are used here.

Race

Finally, the existence of racial differences in labor market success has been a topic of substantial interest.[29] Previous work using the NLS data on youth has already indicated substantial differences between the labor market achievements of black and white young men.[30] In the present study, all analyses are performed separately for whites and (when sample sizes permit) for blacks in order to permit the investigation of racial differences and of whatever implications they may have for public policy.

(1975). From this perspective, any accounting for the effects of schooling on labor market success should not "control for" occupational knowledge. From another point of view, however, the amount of schooling a young man obtains is affected by his occupational information, and this requires that the effects of the former should be explored net of the latter.

[27] Bowles (1973); Griffin (1976); Solmon (1973a).

[28] Kohen (1973), Appendix B.

[29] Becker (1957); Brimmer and Harper (1970); Flanagan (1974); Gwartney (1970); Kohen (1973); Masters (1975); Oaxaca (1973); Thurow (1969); Weiss and Williamson (1972); Welch (1973).

[30] Andrisani and Kohen (1975); Grasso (1975); Kohen (1973); Kohen and Roderick (1975); Parnes and Kohen (1976).

Criterion Measures

We turn now to a discussion of the several criterion measures of labor market success that are used in this study. To start, it is clear that returns to investment in human capital can be realized in many ways. One of the most obvious of these is wages, and therefore hourly rate of pay is used as one of the dependent variables.[31] However, focusing exclusively on the wage rate would constitute an overly narrow approach, especially in the case of youth. First of all, the theory of human capital recognizes returns to investment that are not work related. Second, even when attention is concentrated on work- or job-related returns, measures such as wage rate or earnings are unduly limited. For example, in making job choices, workers may elect to trade off wages for other benefits such as status or enjoyable work. Also, human capital theory strongly suggests that youth in particular may forego higher wages in the present for training and learning opportunities which can lead to increased benefits in the future. Finally, a major focus of current research on the consequences of recent social, demographic, educational and economic trends is the extent to which workers are or will be underemployed. Thus, research on the skill levels of work can be important in its own right.

To permit consideration of such factors, we employ several criterion measures in addition to the wage rate. One of these is the Duncan Index of socioeconomic status (DUNC), which is used as a proxy for career potential; that is, the Duncan score for an individual's current occupation is construed to be a better long-run status measure than that provided by the present wage rate.[32]

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[31] We prefer the hourly rate of pay to measures covering longer periods of time (e.g., annual earnings) for several reasons. For one thing, we are not concerned with estimating rates of return to investments, particularly in view of the absence of information on direct costs in the NLS data; this eliminates one basis for preferring annual earnings as a criterion measure. Beyond this, measures such as annual earnings are sensitive to differences in hours of work, which in theory depend on the hourly rate of pay. In this volume, a major factor accounting for differences in annual hours of work (i.e., unemployment experience) is treated elsewhere. For a discussion of several other reasons for preferring hourly rate of pay, see Blinder (1976); Eckaus (1973); Grasso (1975); Lindsay (1971).

[32] By definition, the Duncan Index value assigned to any given occupational category is based on all workers in the category. In general, each category contains workers who vary considerably in such characteristics as experience, job responsibilities, and earnings.

Two additional measures are used to represent the skill levels of jobs in which youth are employed. The first measure represents the level of general education required for satisfactory performance in the occupation (GED), while the second is based on the amount of time required to learn the specific skills required for average performance (SVP).[33]

Model Ia

We first employ the four criterion measures in a traditional way in a cross-sectional analysis of data for 1971, at which time the young men were 19 to 29 years of age. With minor exceptions, each criterion measure is regressed on a common set of explanatory variables. These four cross-sectional analyses, together called Model Ia, are summarized in Table 3.1 below.

The explanatory variables include measures of education and training, experience, ability, and environmental factors. Using Model Ia as an illustration, the human capital variables include alternative measures of schooling and of training outside of regular school. Schooling is measured alternatively by the number of years completed as well as by schooling level: i.e., separate dichotomous variables for high school dropouts, high school graduates, those with some college and no degree, associate-level degree holders, bachelor's level, master's level, and those with doctoral level degrees. Training is distinguished by source:

At the same time, young workers in a given category probably rank relatively low within the hierarchies of the category, a ranking that is likely to change in time. Thus, for young workers with relatively low wages and lesser job responsibilities, the Duncan score may be conceived to be a better measure of their long-run labor market position than is their current wage. To the extent that young workers remain in the same occupational category as time passes, or move only to categories with similar Duncan scores, the value of the Duncan Index for their current job will reflect their long-run career position. See Grasso (1975) for a more complete discussion of this use of the Duncan Index in a study of young men.

[33] See the Glossary for a detailed description of these measures. However, it should be noted here that, like the Duncan Index, both the GED and SVP ratings are assigned on the basis of the three-digit occupational category in which the youth is employed, and not upon the specific job he holds. Despite this imprecision in the GED and SVP measures, it is our opinion and, we believe, that of others (e.g., Fine, 1968) that their use permits analyses of the relationship between functional or performance aspects of jobs and the education, training, and experience of workers.

Table 3.1 Cross-Sectional Models of Labor Market Success in 1971 (Model Ia)

(+) indicates that a positive association is hypothesized

(-) indicates that a negative association is hypothesized

Explanatory variables[a]		Dependent variables[a]	
		WAGE71	GED71, SVP71, DUNC71
(1) Schooling[b]			
Years of schooling	(EDYRS71)	(+)	(+)
(or)			
Level of attainment			
Less than high school graduation	(ED:EL71)	(omitted)	(omitted)
High school graduate	(ED:HS71)	(+)	(+)
Some college, no degree	(ED:COL71)	(+)	(+)
Associate level	(ED:AA71)	(+)	(+)
Bachelor's level	(ED:BA71)	(+)	(+)
Master's level	(ED:MA71)	(+)	(+)
Doctoral level	(ED:PHD71)	(+)	(+)
(2) Training			
Civilian	(TRAINCIV71)		
Professional or technical	(TRAINCP71)	(+)	(+)
Managerial	(TRAINCM71)	(+)	(+)
Clerical or sales	(TRAINCC71)	(+)	(+)
Skilled manual	(TRAINCS71)	(+)	(+)
Military	(TRAINMIL71)	(+)	(+)
(3) Experience			
General experience	(EXPER71)	(+)	(+)
Tenure on current job	(TENR71)	(+)	(+)
Length of military service	(MILDURTOT71)	(?)	(?)
(4) Personal characteristics			
Ability			
IQ	(IQ)	(+)	(+)
Occupational information	(OCCINF)	(+)	(+)
Health problem	(HEALTH71)	(-)	(-)
Socioeconomic status	(SES)	(+)	(+)
(5) Environment			
Area of residence	(SMSA71)	(+)	(+)
Region of residence	(SOUTH71)	(-)	

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[a] All variables are defined in detail in the Glossary.

[b] Models Ib and Ic are variants of Model Ia, are not shown separately above, and are different from Model Ia primarily in the representation of schooling. While Model Ia is applied to data for all young men not in school and employed for wages or salary in 1971, Model Ib is applied only to the subset of those who did not attend any college and Model Ic is applied only to the subset of those who did. Moreover, it is within Models Ib and Ic that we include additional variables relating to "credentials effects", as well as to the type of program and the quality of the school.

civilian and military. Civilian training[34] is further differentiated by type: i.e., professional or technical, managerial, clerical, and skilled manual training.

The experience measures include general overall work experience, tenure with current employer, and the length of military service. The ability measures include an index of scholastic aptitude and a labor market information score. Also included are the socioeconomic level of the parental family, the presence of a health limitation, and whether or not the respondent lives in an SMSA. In the wage equations alone a variable is added to control for regional variation in prices.

Models Ib and Ic

In order to explore the cross-sectional data further, hourly rates of pay are analyzed separately for high school dropouts and graduates (Model Ib) and for college dropouts and graduates with two- and four-year degrees (Model Ic). In these variants, the use of a combination of measures for schooling permits a test of "credentials effects" at each level, and separate items are also used to examine effects of field of study and the quality of the school attended.

Determinants of Labor Market Success in 1971

Judging by the proportion of variance explained, the models utilized for analyzing cross-sectional data for young men in 1971 perform reasonably well (Table 3.2).[35] The regressions explain 25

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[34] The survey instrument permits the recording of many different types of activities as "training." In view of this, we have "screened" these responses by counting as training only those activities which (a) fall into one of the following types: professional or technical, managerial, clerical, and skilled manual; (b) are reported as either programs which were completed or training which was used on the job.

[35] As compared to the results of some previous analyses of NLS data on young men, our model is not the most potent for explaining variance. Differences stem from the inclusion within other studies of such items as occupation, industry, class of worker, and collective bargaining coverage, which has the effect of increasing the proportion of variance explained. Our decision not to include these items in this study rests on several considerations. First, these do not appear to us to be factors to be "controlled for" in order to avoid imparting a bias to the estimated effects of schooling. Certainly, for example, when we attempt to measure the effects of college field of study, it would be incorrect to control for occupation. Second, if this study were aimed at exploring the effects of, say, collective bargaining agreements, we would obviously need to include a relevant measure, but it is not aimed at examining such factors. Finally we wish to compare results among our various models and certain information (e.g., collective bargaining coverage) was not gathered in every survey.

Table 3.2 Regression Results for Labor Market Success in 1971 (Model Ia), by Race

(Absolute t-values in parentheses)

Explanatory variables	WAGE71		DUNC71		GED71		SVP71	
	WHITES							
Schooling								
ED:EL71	(omitted)		(omitted)		(omitted)		(omitted)	
ED:HS71	0.28**	(2.03)	2.2	(1.19)	0.15	(0.71)	0.14	(0.97)
ED:COL71	0.56**$^{@}$	(3.13)	10.4**$^{@}$	(4.34)	0.72**$^{@}$	(2.58)	0.51**$^{@}$	(2.71)
ED:AA71	0.67$^{@}$	(1.83)	17.6$^{@}$	(3.62)	1.22$^{@}$	(2.15)	0.48$^{@}$	(1.26)
ED:BA71	1.31**	(6.34)	27.6**	(9.94)	3.15**	(9.77)	1.80**	(8.25)
ED:MA71	1.62**$^{@}$	(5.31)	28.2**$^{@}$	(6.89)	3.98**$^{@}$	(8.38)	2.17**$^{@}$	(6.75)
ED:PHD71	1.49$^{@}$	(4.13)	45.0$^{@}$	(9.27)	6.32$^{@}$	(11.23)	4.02$^{@}$	(10.56)
Training								
TRAINCP71	0.17**	(1.77)	8.8**	(6.75)	0.83**	(5.51)	0.13	(1.28)
TRAINCM71	0.06	(0.43)	12.6**	(6.66)	0.44**	(2.02)	0.52**	(3.47)
TRAINCC71	0.02	(0.10)	8.4**	(3.32)	0.04	(0.15)	0.11	(0.54)
TRAINCS71	0.29**	(2.92)	-2.3**	(1.74)	0.26**	(1.68)	0.10	(0.94)
TRAINMIL71	0.24*	(1.56)	3.7**	(1.74)	0.32*	(1.31)	0.13	(0.80)
Experience								
EXPER71	0.012**	(7.82)	0.01	(0.49)	0.001	(0.26)	0.001	(0.65)
TENR71	0.005**	(2.92)	0.08**	(3.31)	0.007**	(2.37)	0.007**	(3.48)
MILDURTOT71^{a}	0.002	(0.57)	-0.07	(1.18)	-0.008	(1.17)	-0.007	(1.56)
Personal characteristics								
IQ	0.003	(0.90)	0.17**	(3.60)	0.014**	(2.48)	0.006*	(1.62)
OCCINF	0.03**	(4.48)	0.4**	(4.77)	0.04**	(3.50)	0.01	(1.14)
HEALTH71	-0.40**	(3.13)	-2.0	(1.16)	0.03	(0.15)	-0.04	(0.27)
SES	0.02	(0.93)	0.6**	(1.72)	0.02	(0.54)	0.02	(0.63)
Environment								
SMSA71	0.54**	(6.43)	0.7	(0.66)	-0.13	(0.96)	-0.14	(1.55)
SOUTH71	-0.32	(3.50)						
Constant	0.59	(1.38)	-13.4	(2.40)	6.70	(10.39)	0.30	(0.69)
$\bar{R}^2$	.25		.45		.39		.27	
F-ratio	21.76		54.69		42.47		25.14	
Number of respondents	1,233		1,233		1,233		1,233	
Dependent variable^{b} (mean, std. dev.)	3.94 1.59		41.4 25.0		11.0 2.7		2.2 1.7	

(Table continued on next page.)

Table 3.2 Continued

Explanatory variables	WAGE71		DUNC71		GED71		SVP71	
	BLACKS							
Schooling								
ED:EL71	(omitted)		(omitted)		(omitted)		(omitted)	
ED:HS71	0.06	(0.34)	-0.1	(0.04)	0.04	(0.12)	-0.08	(0.38)
ED:COL71	0.62**	(2.17)	2.3@	(0.49)	0.83*@	(1.36)	0.03@	(0.10)
ED:AA71	0.56@	(0.86)	-1.3@	(0.13)	-1.11@	(0.81)	-0.06	(0.07)
ED:BA71	1.00@	(2.82)	36.2@	(6.42)	5.13	(6.85)	2.22	(5.41)
ED:MA71	(no cases)		(no cases)		(no cases)		(no cases)	
ED:PHD71	2.09@	(1.84)	34.1@	(1.89)	5.11@	(2.13)	1.86	(1.41)
Training								
TRAINCP71	0.22@	(1.19)	7.7**@	(2.58)	0.28@	(0.70)	-0.14@	(0.87)
TRAINCM71	0.03@	(0.10)	5.0@	(1.15)	-0.69@	(1.19)	-0.07@	(0.21)
TRAINCC71	0.31@	(0.55)	9.0	(1.02)	1.21	(1.03)	0.15@	(0.46)
TRAINCS71	0.44**@	(2.46)	3.7*@	(1.28)	0.94**@	(2.45)	0.55**@	(2.02)
TRAINMIL71	0.27	(0.85)	7.6	(1.50)	1.26	(1.87)	0.77	(2.10)
Experience								
EXPER71	0.005**	(2.35)	-0.04	(1.04)	-0.002	(0.49)	-0.006	(2.17)
TENR71	0.003	(0.69)	0.00^{+}	(0.08)	-0.008	(0.94)	0.001	(0.14)
MILDURTOT71[a]	0.001	(0.09)	0.04	(0.36)	-0.011	(0.82)	-0.007	(0.95)
Personal Characteristics								
IQ	-0.005	(0.87)	0.19**	(2.11)	0.024**	(2.01)	0.006	(0.99)
OCCINF	0.03@	(2.90)	0.1@	(0.75)	0.04*@	(1.54)	0.03**@	(2.27)
HEALTH71	-0.50	(2.12)	7.5	(2.00)	0.69	(1.37)	-0.07	(0.26)
SES	0.03	(0.68)	-0.9	(1.23)	-0.11	(1.09)	-0.04	(0.83)
Environment								
SMSA71	0.65**	(3.35)	7.0**	(2.38)	0.99**	(2.53)	0.52**	(2.43)
SOUTH71	-0.51**	(3.55)						
Constant	1.38	(2.52)	4.7	(0.57)	6.28	(5.69)	0.20	(0.34)
$\overline{R}^2$	.34		.42		.40		.33	
F-ratio	7.25		10.13		9.43		7.23	
Number of respondents	227		227		227		227	
Dependent variable[b] (mean, std. dev.)	3.19 1.18		27.4 20.1		9.7 2.6		1.5 1.4	

UNIVERSE: Nonstudent males 19 to 29 years of age in 1971 who were employed full time for wages or salary in 1971.

a Statistical significance based on a two-tailed test.

b For the means and standard deviations of the explanatory variables, see Appendix Table 3A.1; for selected correlation coefficients, see Appendix Table 3A.2.

@ Coefficient based on fewer than 25 respondents.

0^{+} Indicates nonzero value rounded to zero.

* Statistically significant at .10 level.

** Statistically significant at .05 level.

to 45 percent of the variance in the criterion measures. Most important, the results indicate that the effects of investment in human capital can be substantial.

Since the level of schooling is measured in the form of dummy variables, the coefficient for each level shown can be interpreted as the difference between that level and the one which is omitted (i.e., ED:EL71, high school dropouts). To illustrate, holding other things constant, the results indicate that white high school graduates earn $0.28 per hour more than do white high school dropouts, and white college graduates earn $1.31 per hour more than white high school dropouts. In the case of blacks, the comparable figures are $0.06 and $1.00. As can be seen, the coefficients for schooling rise monotonically in every instance in which there are sufficient numbers of cases to have confidence in the estimated values. Taking this one step further, we can compare each level of schooling with every other by calculating the pairwise differences. In the case of whites, the differences between the various levels of schooling are statistically significant in almost every comparison based on adequate numbers of cases (Table 3.3).

In the equations for whites, most of the coefficients for the different types of formal postschool training are also positive and statistically significant. This is not so clear in the models for blacks, where in many instances insufficient numbers of cases preclude confident conclusions. As was expected, both general work experience and firm-specific work experience are important in explaining the level of wages for whites.[36] However, general work experience is far less important than length of service with the firm for explaining the types of jobs that these young men hold. By comparison, the results for blacks portray a far different story. Only general work experience is important for explaining wages,[37] and neither general experience nor firm-specific experience appears to be important for explaining differences in types of work. It would also appear that time spent in the armed forces is not important per se for any criterion measure for either race. However, the variable denoting the receipt of training within the military (TRAINMIL71) has a positive and statistically significant coefficient in several instances. In any event, a more complete analysis of the role of military service is found elsewhere in this volume (Chapter VI). The variables used to control for personal characteristics (e.g., IQ, OCCINF, and SES) perform substantially as anticipated, although not all of these reach statistical significance in every equation. Indeed, only in the model for job status for whites are all three statistically significant.

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[36] Thus, for example, the coefficients for experience in the wage equations (multiplied by 12) indicate that the wages of young whites have increased by $0.14 per hour for every year of general work experience and, in addition, by $0.06 per hour for every year with the firm.

[37] The finding that job tenure has no effect on wages among blacks is derived from the results reported in Table 3.2, which are regressions examining hourly rates of pay. In an alternate specification in which the dependent variable is the natural logarithm of wage, the effect of job tenure is significant for blacks (Appendix Table 3A.3), but this result does not obtain in yet another specification in which the criterion variable is WAGE71 and general work experience is included in a nonlinear fashion (Appendix Table 3A.4). Comparing all the variables in all three variations, this is one of only two cases in which inferences about the effects of a variable differ depending on the specification of the model.

Comparing the cross-sectional results for whites and blacks suggests that there are substantial racial differences in the effects of human capital investment on the several measures of labor market success. Unfortunately, it is not possible to offer conclusive evidence on the statistical significance of these intercolor differences. For one thing, as Table 3.2 reveals, there are many instances in which the number of blacks with a given characteristic is too small to permit confidence in the numeric value estimated for that characteristic.[38] Second, existing theory and available methodology indicate no clear direction for devising and performing a "most appropriate" test for differences between racial groups.[39]

The only other case is that the square of general work experience is significant in the formulation reported in Appendix Table 3A.4, but only for whites and with so small a negative coefficient that the inflection point obtained for experience is far beyond the range of the actual data (i.e., $\frac{\partial WAGE71}{\partial EXPER71} = 0$ at EXPER71 = 12.5 years, which is 2.6 standard deviations above the mean value of EXPER71). In view of all this we are inclined to rely on the results reported in Table 3.2 and to forego further discussion of those reported in Appendix Tables 3A.3 and 3A.4.

[38] The small numbers of blacks in the sample with more than high school education unfortunately preclude investigation of not only the issues discussed in the text but also many other related issues. For example, we are prevented from examining possible racial differences in the effects of college field of study or the quality of postsecondary institutions attended.

[39] As is explained in greater detail in Appendix C, the state of existing theory and methodology is such that it is not possible to specify which of a large number of possible tests is most appropriate to perform, even when the hypothesis seems to be clearly stated. At the same time it can be demonstrated that inferences concerning the

Table 3.3 Effects[a] of Successively Higher Levels of Schooling on the 1971 Wage Rates of Young White Men[b]

(t-values in parentheses)

Higher level	Lower level					
	Less than high school graduation	High school graduation	Some college, no degree	Associate degree	Bachelor's degree	Master's degree
High school graduation	0.28** (2.03)					
Some college, no degree	0.56** (3.13)	0.28** (2.33)				
Associate degree	0.67@ (1.83)	0.39@ (1.14)	0.10@ (0.31)			
Bachelor's degree	1.31** (6.34)	1.03** (6.82)	0.75** (5.23)	0.64@ (1.86)		
Master's degree	1.62** (5.31)	1.34** (5.01)	1.06** (4.08)	0.95@ (2.34)	0.31 (1.19)	
Doctoral degree	1.49@ (4.13)	1.21@ (3.69)	0.93@ (2.92)	0.83@ (1.85)	0.18@ (0.58)	-0.12@ (-0.32)

SOURCE: Regression results for WAGE71 for whites reported in Table 3.2.

a Effects shown in dollars per hour.

b Unfortunately, small sample sizes among blacks virtually eliminate the usefulness of calculating the analogous figures for that group.

@ Coefficient based on fewer than 25 respondents.

** Statistically significant at .05 level.

It certainly appears from the results in Table 3.2 that the wage advantage enjoyed by high school graduates over high school noncompleters is greater among whites ($0.28 per hour) than among blacks ($0.06 per hour). However there appears to be no similar advantage for whites in the case of college noncompleters (i.e., $0.56 per hour versus $0.62), and the small number of blacks with higher levels of schooling precludes confident intercolor comparisons of the effects of those levels of schooling.

An alternate specification of the models shown in Table 3.2 was used, in which schooling was represented by a single variable measuring the number of years completed, and the results for the effects of schooling are presented in Table 3.4. As can be seen, a year of additional schooling appears to add on average $0.23 per hour for whites as compared to $0.19 for blacks. However, in view of the relatively large standard errors of these estimates ($0.03 and $0.06 per hour for whites and blacks respectively), we are not inclined to submit that the difference of $0.04 per hour is significant. In contrast, the intercolor differences in the effects of schooling on two of the three measures of the kinds of jobs obtained appear to be substantial and significant (i.e., with the variables DUNC71 and SVP71).

Table 3.4 Regression Coefficients for Schooling, by Race

(Standard error of regression coefficient)

Dependent variable	WHITES	BLACKS
WAGE71	0.23 (0.03)	0.19 (0.06)
DUNC71	5.4 (0.4)	4.2 (0.9)
GED71	0.68 (0.05)	0.63 (0.13)
SVP71	0.40 (0.03)	0.23 (0.07)

SOURCE: Regressions resembling those in Table 3.2 except that schooling is measured by a single (continuous) variable denominated in the number of years completed.

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the statistical significance of differences between groups vary according to the specific test performed. As a result, we discuss in the text certain differences which we have selected for a variety of reasons (e.g., analyses not shown here or sensitivity tests) without presenting formal tests of the equality of regression coefficients across equations.

In the case of wages, there also appear to be racial differences in the effects of variables other than schooling. For one thing, although general work experience is a significant factor for both whites and blacks, it appears to be worth much more among the former than among the latter (i.e., 1.2 cents per hour for a month of experience for whites versus 0.5 cents for blacks). Similarly, the effects of additional service with the firm appear to be greater for whites than for blacks (i.e., 0.5 cents per hour for a month of tenure versus 0.3 cents, the latter being not statistically different from zero).

In addition, the variable for regional relative price differences (SOUTH71) attains a larger negative value for blacks than for whites. That is, other things equal, blacks living in the South earn $0.51 per hour less than other blacks, while the comparable figure for whites is $0.32. At the same time, not living in an urban area seems also to have a greater impact for blacks than for whites (i.e., $0.65 versus $0.54 less than those living in urban areas).

Results for High School and College Groups Separately

In order to explore additional questions concerning the labor market impact of the number of years, level, type, and quality of schooling, several variants of the models used above are applied to data for selected groups of youth. The first (Model Ib) relates exclusively to those young men who never attended college, while the second (Model Ic) refers only to those who had completed at least some postsecondary schooling, but not more than a bachelor's degree. In both cases, the hourly rate of pay is the sole criterion measure examined. Results are presented in Appendix Tables 3A.5 to 3A.9.

One advantage of the stratification procedure is that the results from the separate strata may be compared to one another to investigate differences in the effects of other variables according to level of schooling. A second advantage lies in the opportunity to pose questions concerning the effects of school-related measures that are not addressed in Model Ia. In the model for the high school stratum, these include:

1. Does the "payoff" to the senior high school year differ from that of earlier years (i.e., is there a diploma or "credentials" effect)?

2. Is there a difference in the payoff to schooling according to the curriculum taken (i.e., college preparatory, vocational-commercial, other vocational, and the general curriculum)?

3. Is there an impact of the "quality" of the high school attended?

Similarly, in Model Ic, we pose the analogous questions about the possible existence of differences at the college level according to "credentials," field of study, and "quality."

The results of the various tests based on data for high school youth indicate that none of the additional schooling-related factors bears a statistically significant relationship to the wages of the respondents in 1971, for either race (Appendix Table 3A.9).[40] At the college level, only one of the factors appears to be significantly related to the 1971 rate of pay of young whites,[41] i.e., the field of study. Upon inspection, this appears to arise primarily from higher-than-average wages enjoyed by those who majored in engineering.

It is also instructive to note racial differences within the high school stratum. In the findings based on all young men regardless of the level of schooling achieved (Table 3.4), evidence was not persuasive that the impact of schooling on wages differs by race. In the results for youth who did not attend college (Appendix Table 3A.5), it appears that a year of schooling is associated with $0.16 per hour among young whites and with only $0.05 per hour among blacks, the latter figure not being statistically significant. Thus, the evidence concerning racial differences in the effects of schooling on wages is ambiguous.[42]

Perhaps the most interesting finding concerns the behavior of variables other than those related to schooling. The detailed results suggest the existence of differences by level of schooling in the impact of general work experience and tenure. In the case of general work experience, each additional year is associated with about $0.24 per hour for whites who completed at least some college, but with only $0.12

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[40] The importance of using controls for area and regional price levels should not be underestimated. In another study of the effects of earnings of the quality of schooling which used the NLS data, measuring "quality" by the level of district-wide annual expenditures per student in the district where the respondent attended secondary school, the authors did not use a variable to represent regional variation in prices (Link and Ratledge, 1975). This omission is one of several items subject to question in interpreting the results of that study or in comparing those results to ours.

[41] The corresponding analysis for blacks completing at least some college is precluded by small sample size.

[42] We are not, however, suggesting that the regressions that underlie Table 3.4 conflict with those in Appendix Tables 3A.5 and 3A.7. The several regression coefficients for schooling for whites seem "reasonable." A problem is that the analogous series for blacks is incomplete; no figure is available for the undergraduate stratum due to small sample size. Another minor complication is that, unlike the universe in Table 3.4, the universe in Appendix Tables 3A.5 and 3A.7 necessarily excludes respondents whose records do not contain information on curriculum, field of study, or school quality.

per hour for those with less schooling. In the case of service with the firm, the corresponding values are $0.13 and $0.05 per hour. These findings may be reflecting either (a) that those with additional schooling benefit more from any experience or (b) that the better educated obtain jobs in which more valuable experience is gained.

Another possible explanation may lie in the contention that the labor market payoff to college attendance has been declining in recent years. That is, in the cross-sectional analyses presented above, the estimated effect (i.e., "slope") of experience is actually based on data for young men who possess different amounts of work experience. However, if recent college graduates (i.e., those with little work experience) have entered the labor market at a smaller advantage over high school graduates than earlier graduating classes (with more work experience), this would be reflected in the cross-sectional results as a steeper slope for the work experience variable for college than for high school graduates. Put somewhat differently, the findings on work experience may be merely reflecting a relationship based on the recency of labor market entry, due to the definitional inverse relationship between the recency of leaving school and the amount of postschool work experience gained to date.[43] The NLS data permit more careful testing of this hypothesis, a matter to which we now turn our attention.

IV CONCERNING THE DECLINING VALUE OF COLLEGE

Some recent studies have concluded that current social, demographic, and economic trends have led to a decline in the economic returns to college education.[44] It is noteworthy that the evidence for such assertions has been based on less than optimal data. For example, one study contends that the annual percent change in "starting salaries" of college graduates was considerably higher during the 1961-1969 period than during the 1969-1974 period, when it failed to keep pace with rising prices.[45] However, the data used in that study pertained to salary offers, not acceptances, and were limited to those recorded at college placement centers.[46] Also, data for new college graduates of 1970 and 1971 show a remarkable amount of movement from temporary first jobs to better-paying and more highly career-related subsequent jobs,[47] and this kind of labor market adjustment process should be taken into account.

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[43] The problem discussed in the text arises from reliance on cross-sectional data to draw inferences concerning work experience. A similar confounding effect might be underlying our findings for the influence of work experience on wages for blacks (i.e., the EXPER71 coefficient for blacks in Table 3.2 above). Our coefficient could be a downwardly biased estimate of the wage-experience gradient if, for example, wages for black labor market entrants were rising faster than wages of experienced black workers as a result of affirmative action programs.

[44] See, for examples, Crowley (1972); Freeman (1975a, 1975b, 1976); Gordon (1974); McNaughten (1972); O'Toole (1975a and 1975b); Wolfle and Kidd (1971).

[45] Freeman (1975a), Table 1.

Moreover, similar data on recent high school graduates who entered the labor market during this period need to be examined. If labor market entrants with high school diplomas suffered declines in real starting wages comparable to those reported for college graduates, this would suggest the existence of a "cohort effect," and the returns to college completion might have remained as high as ever.

To shed additional light on this issue, this portion of the study is devoted to the experiences of new labor market entrants, focusing on two two-year periods: 1966-1968 and 1969-1971. Since the NLS surveys of young men were conducted in the last quarter of each year between 1966 and 1971, we can utilize data on young white men[48] in their first year out of school. Specifically, Model IIa is applied to those 17 to 24 years old who were enrolled when interviewed in 1966 and who subsequently left school, entered the labor market, and were employed full time for wages and salaries at one of the following two surveys (i.e., 1967 or 1968). Model IIb is used for the analogous group enrolled in 1969 and leaving school in either 1970 or 1971. In these models, real wages (in 1971 dollars) are utilized in order to abstract from the general rise in prices during the period. As is indicated in Table 3.5, Models IIa and IIb are designed to be as similar as possible to the models used earlier.[49]

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[46] It is not altogether clear what occurred to average acceptances. For example, were the number and average level of offers made at college placement centers to decline, the primary result might be that job seekers would broaden their search. In any event, less than one-fourth of new college graduates actually obtained a first job through school placement offices during this period (Perrella, 1973, Table 5).

[47] Among college graduates who had left school in either 1970 or 1971 and who were employed in October 1971, more than one-fourth had held at least two jobs. Of the job changers, nearly two-fifths had left a job which was not related to their field of study to take a job which was related. Altogether, about 70 percent of those employed in October 1971 assessed their jobs as having career potential, while only 55 percent regarded their first jobs as having career potential. For more details, see Perrella (1973).

[48] Small sample sizes preclude a comparable analysis for blacks.

[49] Some of the differences between Model I and Model II deserve discussion. For one thing, the variables used in Model I to represent

Table 3.5 Models of Labor Market Success among New Entrants to the Labor Force (Model II)

(+) indicates that a positive association is hypothesized

(-) indicates that a negative association is hypothesized

Explanatory variables[a]		Dependent variables[a]	
		WAGE__	DUNC__, GED__, SVP__
(1) Schooling			
Level of attainment			
Less than high school graduation	(ED:EL__)	(-)	(-)
High school graduate	(ED:HS__)	(omitted)	(omitted)
Some college, no degree	(ED:COL__)	(+)	(+)
Associate level	(ED:AA__)	(+)	(+)
Bachelor's level	(ED:BA__)	(+)	(+)
(2) Training			
Civilian	(TRAINCIV__)	(+)	(+)
(3) Experience			
General experience	(EXPER*__)[b]	(+)	(+)
Tenure on current job	(TENR*__)[b]	(+)	(+)
(4) Personal characteristics			
Occupational information	(OCCINF)	(+)	(+)
Health problem	(HEALTH__)	(-)	(-)
Socioeconomic status	(SES)	(+)	(+)
(5) Environment			
Area of residence	(SMSA__)	(+)	(+)
Region of residence	(SOUTH__)	(-)	

[a] All variables are defined in detail in the Glossary.

[b] Modified in Model II to include the experience gained before leaving school for youth remaining with the same employer.

The results of the multiple regression analysis of starting wages contain little evidence of a decline in the labor market effects of a college education between 1966 and 1968 and between 1969 and 1971 for young whites employed as full time wage or salary workers at the first survey after leaving school (Table 3.6). For example, among the labor market entrants in the earlier period, those who were college graduates were paid \$1.04 more per hour than those who were high school graduates. Comparing this to the analogous figure for the period 1969-1971 (i.e., \$0.99 per hour) yields a difference of \$0.05 per hour, which is quite small in relation to the length of the period (i.e., about three years) or to the standard errors of the estimates (i.e., 0.25 and 0.22, respectively). Statistically, this decline is nonsignificant; by similar reasoning, none of the parameter estimates differs significantly from one period to the next.

It is useful to examine the results in another way. From the regressions in Table 3.6, it is possible to calculate an estimated starting rate of pay for each of the two periods for a pair of hypothetical youth: a college graduate and an otherwise comparable high school graduate.[50] As shown in Table 3.7, the estimates thus

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experience or training while in the armed forces are omitted here because respondents who had served in the military prior to entering the civilian labor market are excluded from this analysis. For another, rather than using a set of variables to represent participation in various types of formal postschool training, as was done in Model I, small sample sizes led to aggregating different types into a single measure here. Third, the variable IQ is not used because of the large number of missing entries, particularly among the youngest men in these samples.

[50] Specifically, both of the regressions in Table 3.6 were evaluated for a hypothetical young man with a given set of characteristics, alternately ignoring and including the coefficient which represents the difference between a high school and college graduate (i.e., ED:BAt). The numeric values representing the other characteristics common to all the estimates are: TRAINCIVt = 0; EXPER*t = 7; TENR*t = 4, OCCINF = 38 in the model for 1966-1968 and 33 in the model for 1969-1971; HEALTHt = 0; SES = 11.1; SMSAt = 1; and SOUTHt = 0. Each of these values was selected at either approximately the mean value or at the mode (i.e., in the case of the measures that are dummy variables). The sole peculiarity in this procedure concerns the variable OCCINF, the mean of which is 38 for the 1966-1968 entrants and is 33 for 1969-1971 labor market entrants. The difference arises because this test of occupational information is not a standardized measure; scores of those enrolled in school in 1966 vary with the grade of attendance (or age, since age and grade are highly correlated among students) at that time. The grade (or age) was on average three years higher for those who entered the labor market between 1966 and 1968 than for those who entered between 1969 and

Table 3.6 Regression Results for Starting Rates of Pay[a] of White Labor Market Entrants, for 1966 through 1968 and for 1969 through 1971

(Absolute t-values in parentheses)

Explanatory variables[b]	Starting wages 1966-1968 (Model IIa)		Starting wages 1969-1971 (Model IIb)	
Schooling:				
ED:EL__	0.19@	(0.51)	0.25@	(0.64)
ED:HS__	(omitted)		(omitted)	
ED:COL__	0.38**	(1.78)	0.37**	(1.74)
ED:AA__	0.42@	(0.85)	0.23@	(0.52)
ED:BA__	1.04**	(4.20)	0.99**	(4.47)
Training				
TRAINCIV__	0.03	(0.16)	0.19	(0.99)
Experience				
EXPER*__	-0.024	(0.58)	0.037	(1.11)
TENR*__	0.040**	(1.09)	0.019	(0.64)
Personal characteristics				
OCCINF	0.03**	(1.73)	0.01	(1.11)
HEALTH__	-0.09@	(0.33)	-0.29@	(1.09)
SES	0.01	(0.19)	0.04	(0.82)
Environment				
SMSA__	0.42**	(2.27)	0.36**	(2.29)
SOUTH__	-0.50**	(2.66)	-0.30*	(1.61)
Constant	1.38	(2.19)	1.17	(1.77)
$\bar{R}^2$	.24		.16	
F-ratio	5.70		4.66	
Number of respondents	176		227	
Dependent variable[c] (mean, std. dev.)	3.13 1.19		2.94 1.26	

(Table continued on next page.)

Table 3.6 Continued

UNIVERSE: Young men who were 17 to 24 years of age and enrolled in school in either base year (i.e., in 1966 or in 1969) and who subsequently entered the labor market and were employed full time for wages or salary in one of the two succeeding years, except those with any prior military service and those with more than a bachelor's degree.

NOTE: Coefficients shown in dollars and cents, measured in 1971 dollars.

a Strictly speaking, the dependent variables are not starting rates of pay, but are the rates earned at the time of the first NLS survey after the respondent had left school (i.e., in October through December of the relevant calendar year).

b All variables except OCCINF and SES are measured as of the first survey after the respondent had left school (i.e., in October through December of the relevant calendar year.)

c For means and standard deviations of the explanatory variables, see Appendix Table 3A.12.

@ Coefficient based on fewer than 25 respondents.

* Statistically significant at .10 level.

** Statistically significant at .05 level.

Table 3.7 Estimates Wages (in 1971 Dollars) of White School Leavers: 1966-1968 and 1969-1971

(Standard error of prediction in parentheses)

Item	Estimated wage[a]		Average annual percent change,[b]
	1966-1968 (I)	1969-1971 (II)	1967-1970 (III)
A) College graduate	$4.08 (.21)	$3.63	-3.8%
B) High school graduate	$3.04 (.20)	$2.64	-4.6%
C) Difference (A - B)	$1.04	$0.99	-
D) Ratio (A ÷ B)	1.34	1.38	-

SOURCE: Regression results in Table 3.6.

NOTE: Estimates are reported in dollars and cents per hour, measured in 1971 dollars.

a The estimated wages are calculated by evaluating the regressions at approximately the mean values of variables in the equations shown in Table 3.6 and alternately adding or ignoring the coefficient for ED:BA __, because high school graduates form the reference group for the regressions.

b $\text{(III)} = r = e\ 1/3\ [\ln \text{(II)} \div \text{(I)}] - 1$, from $W_{t+k} = W_t (1 + r)^k$, $k = 3$

obtained correspond to average annual rates of decline in real wages of 3.8 and 4.6 percent for the college and high school graduate, respectively. Our estimate of the rate of decline in real wages for the college graduate, incidentally, is comparable to that reported in previous research based on other data.[51] In any event, these figures show that real wages for high school graduates register a decline over the period at least as great as among college graduates; consequently, the wage advantage enjoyed by college graduates appears not to have diminished substantially either in absolute or in relative terms. Thus, whether or not the rates of decline of 3.8 and 4.6 percent are statistically significant, these data do not suggest that the labor market advantage of a college education declined through 1971.[52]

Although the results of the wage analysis lend no support to the hypothesis that the value of a college education has declined, other results strongly suggest that the effects of schooling on the kinds of work obtained by labor market entrants differed dramatically between the earlier and later periods. For example, according to an analysis of Duncan Index scores, analogous to that reported above for wages, the advantage enjoyed by college graduates over high school graduates diminished from a 44.7 point differential during the period 1966 to 1968, to an 18.4 point difference during 1969 to 1971 (Table 3.8).

1971. An estimate of the size of the difference to be expected can be derived from results of a regression analysis relating test scores to years of schooling completed among white students. The effect of a year was estimated to be 1.67 points on the test, which yields an estimated difference of 5.01 points to be expected among youth differing by three years in date of labor market entrance.

[51] For example, Freeman (1975a) estimates average annual rates of decline for different fields of study ranging from 2.2 to 5.1 percent for the period 1969 to 1974.

[52] There are several reasons to be less than completely confident about whether the economic value of college had diminished through 1971. For one thing, nothing in our analysis takes direct costs into account, and changes in the costs of college could have produced declining net returns. According to Freeman (1975a, p. 296) the direct private costs of college rose during this period, but only by about $150; on the other hand, our finding that the wages of high school graduates run parallel to those of college graduates suggests that he has both understated the benefit stream and overstated the opportunity costs measured by foregone earnings. However, in addition to not considering direct costs, we have also not investigated possible differences in other criterion measures (e.g., in unemployment) or by field of study or level of quality (both of these precluded by small sample sizes).

Table 3.8 Regression Results for Duncan Index of Jobs Obtained by White Labor Market Entrants, for 1966 through 1968 and for 1969 through 1971

(Absolute t-values in parentheses)

Explanatory variables[a]	Dependent variable			
	Duncan Index 1966-1968 (Model IIa)		Duncan Index 1969-1971 (Model IIb)	
Schooling				
ED:EL_ _	3.7[@]	(0.59)	4.8[@]	(0.65)
ED:HS_ _	(omitted)		(omitted)	
ED:COL_ _	14.8**	(3.99)	5.3*	(1.30)
ED:AA_ _	39.1[@]	(4.64)	-11.4[@]	(1.38)
ED:BA_ _	44.7**	(10.43)	18.4**	(4.40)
Training				
TRAINCIV_ _	7.4**	(2.31)	4.6	(1.25)
Experience				
EXPER*_ _	1.37**	(1.92)	-1.20	(1.90)
TENR*_ _	-0.19	(0.30)	1.22**	(2.17)
Personal characteristics				
OCCINF	0.17	(0.65)	0.68**	(3.01)
HEALTH_ _	-0.7[@]	(0.15)	-7.5[@]	(1.46)
SES	-1.1	(1.39)	1.1	(1.22)
Environment				
SMSA_ _	6.1**	(2.01)	0.2	(0.07)
Constant	14.4	(1.33)	-2.2	(0.18)
$\bar{R}^2$	.55		.23	
F-ratio	20.36		7.14	
Number of respondents	176		227	
Dependent variable[b] (mean, std. dev.)	44.37 26.70		36.28 24.87	

UNIVERSE: See Table 3.6.

a All variables except OCCINF and SES are measured at the time of the first survey after leaving school (i.e., in October through December of the relevant year).

b For means and standard deviations of explanatory variables, see Appendix Table 3A.12.

@ Coefficient based on fewer than 25 respondents.

* Statistically significant at .10 level.

** Statistically significant at .05 level.

Results for the GED and SVP ratings of jobs reveal similar declines (Appendix Tables 3A.10 and 3A.11).

As was done for wages, regression results are used to calculate estimates of the several measures of kinds of work for each of the two periods for two hypothetical young men: a college graduate and an otherwise comparable high school graduate. As shown in Table 3.9, the estimates for the college graduate are lower in the second period for all three measures, while the corresponding estimates for high school graduates are invariably higher. Thus, the advantage enjoyed by college graduates appears to have fallen dramatically irrespective of whether the Duncan, GED or SVP rating is used. These results apparently support the hypothesis that an oversupply of college graduates, as compared to the availability of jobs typically associated with college-level schooling, has led in recent years to increasing underemployment among those with higher education.[53]

Table 3.9 Estimates for Kinds of Jobs Obtained by White School Leavers: 1966-1968 and 1969-1971[a]

Item	DUNCAN		GED		SVP	
	66-68	69-71	66-68	69-71	66-68	69-71
A) College graduates	68.3	47.1	14.2	11.8	3.7	2.4
B) High school graduates	23.6	28.7	9.2	9.4	1.0	1.5
C) Difference (A-B)[b]	1.67	0.74	1.67	0.76	1.63	0.51

SOURCE: Regression results in Table 3.8 and Appendix Tables 3A.10 and 3A.11.

a Estimates are calculated from regression results for a pair of hypothetical youth, one a college graduate and the other an otherwise comparable high school graduate.

b Difference measured in standard deviation units.

In order to understand better the implications of these results, the specific occupations held by new labor market entrants have been examined. A striking disclosure of this case-by-case investigation is the relatively large proportion of post-1969 college graduates holding jobs not typically associated with college-level preparation. Only 15.4 percent of those with bachelor's degrees who were new labor market entrants between 1966 and 1968 held jobs rated lower than 60 on the Duncan scale. However, this was true of 42.6 percent of the analogous group who left school after 1969. Some of these cases are displayed in Table 3.10.

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[53] For examples, see the references in footnote 44, above.

Table 3.10 Occupations Held during 1969-1971 by Selected New College Graduates, by Duncan Index Score

Score	Occupation
07	Carpenter's helper
07	Laborer
15	Truck driver
17	Checker and inspector
19	Auto mechanic
19	Operative, paper products
19	Bartender
20	Operative, educational services
22	Shipping clerk
27	Mechanic and repairman
36	Radio and television mechanic
39	Salesman, food stores
39	Salesman, retail stores
40	Policeman
44	Stock clerk, electrical goods
44	Clerk, furniture store
44	Clerk, real estate
45	Foreman, trucking services
48	Forester
50	Salesman, warehousing and storage

In part, the results based on occupational measures for the two periods can also be interpreted as stemming from the intensity of the conflict in Southeast Asia between 1966 and 1968. For one thing, among the college graduates entering the labor market during the two periods, a higher proportion were employed as elementary and secondary school teachers during the 1966-1968 period than after 1969.[54] Since teaching jobs receive high scores in each of the occupational rating systems (e.g., 72 on the Duncan Index), this has the effect of increasing the mean score for the first period relative to that for the second, thus contributing to the size of the "decline." While the reduction in the proportion employed as teachers in the later period is undoubtedly in part a reflection of the declining demand for teachers,[55] the attractiveness of teaching positions prior to 1969 was probably also due to their draft-deferment potential.

In a similar vein, part of the apparent increase in scores over the two periods among those who were high school graduates can also be understood in terms of the war in Southeast Asia. Examination of occupations held by these youth suggests that the mean score in the earlier period was lower than that in the second because of a truncation of the occupational distribution among the 1966-1968 entrants.[56] The data are in accord with the hypothesis that young men graduating from high school between 1966 and 1968, who were not enrolling in college and were especially vulnerable to the military draft, were unlikely to be hired by employers for high-status or high-skill jobs. Also, the truncation is probably due in part to the selectivity of the draft according to ability (see Chapter VI of this volume), which means that our data for 1966 to 1968 omit a disproportionate number of more able high school graduates.

Thus it appears that the occupational data for those entering the civilian labor market between 1966 and 1968 reflect the unique environment resulting from the national need for military manpower: some college graduates entered occupations which offered the potential for occupational deferment, while draft-eligible high school graduates were seen by employers as less than ideal job applicants for career-level positions. On the other hand, the occupational data for those entering the labor market between 1969 and 1971, and particularly the high proportion of college graduates in jobs not typically associated with college-level preparation, appear to support the hypothesis of a trend toward a relative increase in underemployment among college graduates.

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[54] Among respondents who were new labor market entrants with bachelor's degrees in 1966 to 1968, 14 of 50 were teachers, while the comparable proportion for 1969 to 1971 was somewhat lower (i.e., 10 of 58). The fact that only 6 of the 14 from the first period desire to be working as elementary and secondary level teachers when they reach age 30, while 9 of the 10 in the second period do, supports the notion that the war was important in determining initial occupational choice.

[55] See Crowley (1972).

[56] Among respondents who were new labor market entrants with high school diplomas in 1966 to 1968, only 7 of 50 were coded with Duncan scores higher than 40; the analogous proportion for 1969 to 1971 was 23 of 94.

V SUMMARY AND CONCLUSIONS

It was the purpose of this study to investigate a series of questions about the labor market effects of investments in human capital among men aged 19 to 29 in 1971. Overall, the findings suggest that schooling, formal training, and on-the-job training and learning play important and independent roles in the achievement of labor market success during the early career.

The results of the various models also indicate that payoffs to these investments are not equal among all groups of persons. First, although some of the findings are based on uncomfortably small numbers of young black men in the sample (e.g., those with postsecondary schooling or with certain types of training), the findings on racial differences merit discussion. Although the evidence on racial differences in the effects of schooling on wages is ambiguous, it does appear that schooling imparts a lesser advantage to blacks than to whites for obtaining "better" jobs, according to occupational criterion measures.

Second, the labor market effects of general work experience and of firm-specific work experience are found to differ among various groups. The findings suggest that young white men advance in pay, status, and job skill level as work experience is gained and, especially, as tenure with an employer increases. By contrast, the findings for young blacks portray a different story. The association between wages and experience is much smaller among blacks than among whites, and the data suggest that status and job skill level are not related to work experience or job tenure among blacks.

Third, among young whites at least, it appears that the effects of work experience and job tenure are greater for those who completed at least some college than for those who did not. The associations between wages and both general work experience and firm-specific work experience were approximately twice as large for those with college as for those whose schooling ended with a high school diploma.

In none of the analyses are measures of high school or college quality found to be related to labor market achievements. Similarly, the data do not indicate the existence of credentials effects, and they also fail to support the hypothesis of differences in labor market success among graduates of various high school curricula. By contrast, differences in field of study at the college level are found to be associated with differences in wages.

The final section of the study addressed questions concerning the declining labor market value of college. Using data on real hourly rates of pay and on measures of the kinds of work obtained by white youth who left school and entered the civilian labor market during the years of the NLS surveys, the experience of college graduates was compared to that of high school graduates during two periods: 1966 to 1968 and 1969 to 1971. Results of these analyses suggest that the wages of college graduates who left school and entered the labor market after 1969 were lower in real terms than those of pre-1969 entrants, a result consistent with previous research that has led some to conclude that the value of a college education has declined since 1969. However, our findings also indicate a similar wage decline among high school graduates. As a consequence, the estimated advantage enjoyed by the college graduate over the high school graduate appeared not to have diminished during the period studied; rather, the results suggest the existence of a "cohort effect" in which the *relative* advantage of college remained the same. Hence, estimates of a recent decline in the economic value of college that have ignored the trend in starting wages of high school graduates must be regarded with some suspicion.

On the other hand, analyses based on measures of the kinds of work obtained by new labor market entrants during the same years appear to support the hypothesis of a trend towards increasing underutilization of college graduates. However, detailed examinations also suggest that the war in Southeast Asia has played an important role in the labor market entry of these young men. Indeed, the data quite reasonably suggest that the military draft affected those who were not, producing effects which confound the analysis of trends.

As a result of all of this, the present study may best be viewed as an exploratory attempt to assess the consequences of forces prevailing since the mid-1960's and influencing the effects of investments in human capital. We have observed that declines in real wages during the period studied affected not only new college graduates, but also those with less schooling, and that there was apparently an oversupply of college graduates in relation to college-level jobs in 1970 and 1971. At the same time the data unexpectedly indicate an improvement in the initial occupational positions of high school graduates over the same period.[57] What these findings imply for the total working careers of the young men, or for future age cohorts, is difficult to assess at this time because of the confounding influence of factors of short-term and longer-run significance: e.g., the impact of the war as compared with the influence of the increase in the overall labor supply stemming from the size of the birth cohort. Untangling these separate influences requires the passage of time as well as additional research.

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[57] This finding does not conform to predictions from labor-market-segmentation models that are used to study the trend in the labor market value of college (e.g., Freeman, 1975b; Thurow, 1969, 1974, 1975). However, since some of our other findings do conform to these models, additional work on them is probably called for.

REFERENCES

Adams, A.V. "Earnings and Employment of Middle-Aged Men: A Special Study of Their Investment in Human Capital." In H.S. Parnes et al., *The Pre-Retirement Years: Five Years in the Work Lives of Middle-Aged Men*. Columbus: Center for Human Resource Research, The Ohio State University, 1975.

Andrisani, P.J. "An Empirical Analysis of the Dual Labor Market Theory." Mimeographed. Columbus: Center for Human Resource Research, The Ohio State University, 1973.

Andrisani, P.J., and Kohen, A.I. *Career Thresholds: A Longitudinal Study of the Educational and Labor Market Experiences of Male Youth*, Vol. 5. Columbus: Center for Human Resource Research, The Ohio State University, 1975.

Ashenfelter, O., and Mooney, J.D. "Some Evidence on the Private Returns to Graduate Education." *Southern Economic Journal* 35 (January 1969): 247-56.

Becker, G.S. *The Economics of Discrimination*. Chicago: University of Chicago Press, 1957.

__________. "Investment in Human Capital: A Theoretical Analysis." *The Journal of Political Economy* 5 (October 1962-Part 2).

__________. *Human Capital*. New York: Columbia University Press, 1964.

__________. "Human Capital and the Personal Distribution of Income: An Analytic Approach." In G.S. Becker, *Human Capital (Second edition)*. New York: Columbia University Press, 1975.

Blinder, A.S. "On Dogmatism in Human Capital Theory." *Journal of Human Resources* 11 (Winter 1976):8-22.

Bowles, S. "Understanding Unequal Economic Opportunity." *American Economic Review* 63 (May 1973):346-56.

Brimmer, A.F., and Harper, H. "Economists' Perception of Minority Economic Problems: A View of Emerging Literature." *Journal of Economic Literature* 8 (September 1970):783-806.

Carnegie Commission on Higher Education. *Toward a Learning Society: Alternative Channels to Life, Work, and Service*. New York: McGraw-Hill Book Co., 1973b.

Carroll, S.J. *Part-time Experience and the Transition from School to Work*. Santa Monica, California: The Rand Corporation, 1970.

Chiswick, B.R. "Schooling and Earnings of Low Achievers: Comment." *American Economic Review* 62 (September 1972):752-53.

Crowley, M.F. "Professional Manpower: The Job Market Turnaround." *Monthly Labor Review* 95 (October 1972):9-15.

Danziger, S. "Education and the Earnings of Poverty-Area Residents." (Discussion Paper 298-375.) Madison: Institute for Research on Poverty, University of Wisconsin, 1975.

Eckaus, R.S. *Estimating the Returns to Education: A Disaggregated Approach*. Berkeley, California: The Carnegie Foundation for the Advancement of Teaching, 1973.

Fine, S.A. "The Use of the *Dictionary of Occupational Titles* as a Source of Estimates of Educational and Training Requirements." *Journal of Human Resources* 3 (Summer 1968):363-75.

Flanagan, R.J. "Labor Force Experience, Job Turnover, and Racial Wage Differentials." *Review of Economics and Statistics* 56 (November 1974):521-29.

Foster, H.G. "Nonapprentice Sources of Training in Construction." *Monthly Labor Review* 93 (February 1970):21-26.

Freeman, R.B. "Occupational Training in Proprietary Schools and Technical Institutes." *The Review of Economics and Statistics* 56 (August 1974):310-18.

__________. *The Overeducated American*. New York: Academic Press, 1976.

__________. "Overinvestment in College Training." *Journal of Human Resources* 10 (Summer 1975a):287-311.

__________. "Youth Employment Opportunities: Changes in the Relative Position of College and High School Graduates." In S.L. Wolfbein, *Labor Market Information for Youths*. Philadelphia: Temple University School of Business Administration, 1975b.

Freeman, R.B., and Hollomon, J. "The Declining Value of College Going." *Change* 7 (September 1975):24-62.

Gordon, M.S. (ed.) *Higher Education and the Labor Market*. New York: McGraw-Hill Book Co., 1974.

Grasso, J.T. "The Contributions of Vocational Education, Training and Work Experience to the Early Career Achievements of Young Men." Mimeographed. Columbus: Center for Human Resource Research, The Ohio State University, 1975.

Griffin, L. "Specification Biases in Estimates of Socioeconomic Returns to Schooling." Mimeographed. Baltimore, Md.: Center for Social Organization of Schools, The Johns Hopkins University, 1976.

Griliches, Z. "Wages of Very Young Men." Journal of Political Economy 84 (August 1976, part II):S69-S86.

Griliches, Z., and Mason, W.M. "Education, Income and Ability." Journal of Political Economy 80 (May/June 1972-Part 2):S74-S103.

Gwartney, J. "Changes in the Nonwhite/White Income Ratio — 1939-67." American Economic Review 60 (December 1970):872-83.

Hanoch, G. "An Economic Analysis of Earnings and Schooling." Journal of Human Resources 3 (Summer 1967):310-29.

Hansen, W.L. "Total and Private Rates of Return to Investment in Schooling." Journal of Political Economy 71 (April 1963):128-40.

__________. (ed.) Education, Income, and Human Capital. New York: Columbia University Press, 1970.

Hansen, W.L., and Weisbrod, B.A. "Human Capital Investment, Schooling, and Earnings: The Role of Experience." (Discussion Paper 182-73). Madison: Institute for Research on Poverty, University of Wisconsin, 1973.

Hansen, W.L.; Weisbrod, B.A.; and Scanlon, W.J. "Schooling and Earnings of Low Achievers." American Economic Review 60 (June 1970): 409-18.

__________. "Schooling and Earnings of Low Achievers: Reply." American Economic Review 62 (September 1972):760-62.

Hause, J.C. "Ability and Schooling as Determinants of Lifetime Earnings." In F.T. Juster, Education, Income, and Human Behavior. New York: McGraw-Hill Book Co., 1975.

Holtmann, A.G., and Bayer, A.E. "Determinants of Professional Income Among Recent Recipients of National Science Doctorates." The Journal of Business 9 (October 1970):410-18.

Horowitz, M.A. and Herrnstadt, I.L. A Study of the Training of Tool and Die Makers. Boston: Northeastern University, Department of Economics, 1969.

Johnson, G.E., and Stafford, F.D. "The Earnings and Promotion of Women Faculty." American Economic Review 64 (December 1974): 888-903.

Johnston, D.F. "The Aging of the Baby Boom Cohorts." Statistical Reporter 76 (March 1976):161-65.

Juster, F.T. (ed.) Education, Income, and Human Behavior. New York: McGraw-Hill Book Co., 1975.

Kalachek, E., and Raines, F. "The Structure of Wage Differences Among Mature Male Workers." *Journal of Human Resources* 11 (Fall 1976): 484-506.

Kiker, B.F. (ed.) *Investment in Human Capital*. Columbia: University of South Carolina Press, 1971.

Kohen, A.I. "Determinants of Early Labor Market Success Among Young Men: Race, Ability, Quantity and Quality of Schooling." Mimeographed. Columbus: Center for Human Resource Research, The Ohio State University, 1973.

Kohen, A.I. and Breinich, S.B. "Knowledge of the World of Work: A Test of Occupational Information for Young Men." *Journal of Vocational Behavior* 6 (1975):133-44.

Kohen, A.I. and Roderick, R.D. "The Effects of Race and Sex Discrimination on Early-Career Earnings." Mimeographed. Columbus: Center for Human Resource Research, The Ohio State University, 1975.

Lindsay, C.M. "Measuring Human Capital Returns." *Journal of Political Economy* 79 (November/December 1971):1195-1215.

Link, C.R., and Ratledge, E.C. "Social Returns to Quantity and Quality of Education: A Further Statement." *Journal of Human Resources* 10 (Winter 1975):78-89.

Manpower Report of the President. Washington, D.C.: U.S. Government Printing Office, 1975.

Marshall, R.; Franklin, W.S.; and Glover, R.W. *A Comparison of Union Construction Workers Who Have Achieved Journeyman Status Through Apprenticeship and Other Means*. Austin: Center for the Study of Human Resources, The University of Texas, 1973.

Masters, S.H. *Black-White Income Differentials: Empirical Studies and Policy Implications*. New York: Academic Press, 1975.

Maton, J. "Experience on the Job and Formal Training as Alternative Means of Skill Acquisition: An Empirical Study." *International Labor Review* 100 (September 1969):239-55.

McNaughton, K. "Characteristics of Jobless Engineers." *Monthly Labor Review* 95 (October 1972):16-21.

Mincer, J. "On-the-Job Training: Costs, Returns, and Some Implications." *Journal of Political Economy* 70 (October 1962 Supplement):50-79.

__________. *Schooling, Experience, and Earnings*. New York: National Bureau of Economic Research, 1974.

__________. "Education, Experience, and the Distribution of Earnings and Employment: An Overview." In F.T. Juster (ed.), Education, Income, and Human Behavior. New York: McGraw-Hill Book Co., 1975.

National Center for Educational Statistics. The Condition of Education, 1976. Washington, D.C.: Author, 1976.

Oaxaca, R. "Male-Female Wage Differentials in Urban Labor Markets." International Economic Review 14 (October 1973):693-709.

O'Toole, J. "The Reserve Army of the Underemployed, I." Change 7 (May 1975a):26-63.

__________. "The Reserve Army of the Underemployed, II." Change 7 (June 1975b):26-63.

Parnes, H.S., and Kohen, A.I. "Occupational Information and Labor Market Status: The Case of Young Men." Journal of Human Resources 10 (Winter 1975):44-55.

__________. "Labor Market Experience of Non-College Youth: A Longitudinal Analysis." Mimeographed. Columbus: Center for Human Resource Research, The Ohio State University, 1976.

Parsons, D.O. "The Cost of School Time, Foregone Earnings, and Human Capital Formation." Journal of Political Economy 82 (March 1974): 251-66.

Perrella, V.C. Employment of Recent College Graduates. Special Labor Force Report 151. Washington, D.C.: Bureau of Labor Statistics, 1973.

Reed, R.H., and Miller, H.P. "Some Determinants of the Variation in Earnings of College Men." Journal of Human Resources 5 (Spring 1970):177-90.

Rosen, S. "Learning and Experience in the Labor Market." Journal of Human Resources 7 (Summer 1972):326-42.

Rosenzweig, M.R. "Nonlinear Earnings Functions, Age, and Experience: A Nondogmatic Reply and Some Additional Evidence." Journal of Human Resources 11 (Winter 1976):23-27.

Rosenzweig, M.R., and Morgan, J. "Wage Discrimination: A Comment." Journal of Human Resources 11 (Winter 1976):3-7.

Sandell, S.H., and Shapiro, D. "The Theory of Human Capital and the Earnings of Women: A Re-examination of the Evidence." Journal of Human Resources (in press).

Scoville, J.G. The Job Content of the U.S. Economy 1940-1970. New York: McGraw-Hill Book Company, 1969.

__________. *Manpower and Occupational Analysis: Concepts and Measurements*. Lexington, Massachusetts: D.C. Heath and Company, 1972.

Solmon, L.C. "Schooling and Subsequent Success." In L.C. Solmon and P.J. Taubman (eds.), *Does College Matter? Some Evidence on the Impacts of Higher Education*. New York: Academic Press, 1973a.

__________. "The Definition and Impact of College Quality." In L.C. Solmon and P.J. Taubman (eds.), *Does College Matter? Some Evidence on the Impacts of Higher Education*. New York: Academic Press, 1973b.

Somers, G.G.; Sharp, L.M.; Myint, T.; and Meives, S.F. *The Effectiveness of Vocational and Technical Programs: A National Follow-up Survey*. Madison: Center for Studies in Vocational and Technical Education, The University of Wisconsin, 1971.

Taubman, P., and Wales, T. "Mental Ability and Higher Educational Attainment in the Twentieth Century." In F.T. Juster (ed.), *Education, Income and Human Behavior*. New York: McGraw-Hill Book Co., 1975.

Thurow, L.C. *Poverty and Discrimination*. Washington: The Brookings Institution, 1969.

__________. "Measuring the Economic Benefits of Education." In M.S. Gordon (ed.), *Higher Education and the Labor Market*. New York: McGraw-Hill Book Co., 1974.

__________. *Generating Inequality: Mechanisms of Distribution in the U.S. Economy*. New York: Basic Books, 1975.

Wachtel, P. "The Returns to Investment in Higher Education: Another View." In F.T. Juster (ed.), *Education, Income, and Human Behavior*. New York: McGraw-Hill Book Co., 1975.

Weiss, L., and Williamson, J.G. "Black Education, Earnings and Interregional Migration: Some New Evidence." *American Economic Review* 62 (June 1972):372-83.

Welch, F. "Black-White Differences in Returns to Schooling." In O. Ashenfelter and A. Rees (eds.), *Discrimination in Labor Markets*. Princeton: Princeton University Press, 1973.

Wilms, W.W. *Public and Proprietary Vocational Training: A Study of Effectiveness*. Berkeley, California: Center for Research and Development in Higher Education, 1974.

Wolfle, D., and Kidd, C.V. "The Future Market for Ph.D.'s." *Science* 173 (August 27, 1971):784-93.

Wkystra, R.A. (ed.). *Education and the Economics of Human Capital*. New York: The Free Press, 1971a.

__________. (ed.). *Human Capital Formation and Manpower Development*. New York: The Free Press, 1971b.

CHAPTER IV

ANTECEDENTS AND CONSEQUENCES OF OCCUPATIONAL MOBILITY[*][+]

I INTRODUCTION

Occupational mobility is often an integral ingredient in the process of career establishment by young men. For the individual it is the principal mechanism by which status in the social hierarchy is established and altered. Additionally, it is a process that facilitates monetary and nonmonetary returns to investments in human capital (resources). Finally, occupational mobility can be the method for the realization of goals and aspirations that were developed and modified during the years of school attendance.

Using the rich data on pre- and early labor market behavior and attitudes, this study focuses on two occupational changes by young men. The first is mobility between the initial regular postschool job and the job held in 1971. Thus, the process to be studied is the movement from a common starting point in the life cycle. There is substantial precedent in the sociological literature on status attainment and stratification for analyzing occupational mobility by using the first job as the reference point.[1] The earliest changes in occupation also are of considerable interest to economists for at least two reasons. First, they occur during the portion of the life cycle that has the largest weight in the calculation of the present value of lifetime returns to human capital investments. Second, they are important indicators of the efficiency and competitiveness of the labor market in allocating human resources among the occupational slots "demanded" by the larger economy.

The second type of occupational change that is analyzed is that which occurred between the job held at the time of the 1966 interview and the job held at the time of the 1971 interview. By holding constant the time span for potential change, it is possible to analyze accommodations to the world of work that differ according to the stage of the life cycle at which a young man begins. For example, a 1966 high school graduate would be expected to exhibit occupational shifts between 1966 and 1971 which differ from those by a 1960 high school graduate or a 1966 college graduate.

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[*] This chapter was written by Andrew I. Kohen.

[+] I am indebted to R. Jean Haurin for her conscientious research assistance.

[1] Blau and Duncan (1967); Sewell and Hauser (1975); Sorenson (1972).

Additionally, studying occupational mobility over a specific time period effectively holds constant the economic environment within which the mobility occurred. By contrast, the first postschool jobs undoubtedly were begun in a wide variety of states of the national economy. Furthermore, analyzing the occupational movement between 1966 and 1971 permits investigation of some potential monetary and psychic returns to mobility that cannot be performed for movement from the first postschool job.[2] Finally, focusing on the 1966 to 1971 changes facilitates comparison of this cohort's experience with that of a cohort about one generation older during the same calendar years.

Much empirical research on occupational change has focused on intergenerational mobility in order to assess the nature of social stratification systems.[3] For example, even the prodigious work of Blau and Duncan (1967) uses father-son mobility as its principal point of departure. Also, much of the research on this subject has utilized synthetic cohort data rather than longitudinal panel data to represent change.[4] Finally, even the limited number of studies that have employed longitudinal data have for the most part been forced to rely upon retrospective information concerning changes in occupations, with all of the attendant problems of faulty recall and reporting error.[5] In spite of these limitations, previous research has produced a substantial number of generalizations about the correlates of intragenerational occupational mobility that warrant further investigation with better data.

The two foci of this study permit us not only to identify the antecedents of occupation changing, but also to ascertain whether such changing is functional in the sense of being upward. Because of frequent characterizations of the youth labor market as involving a significant degree of random "milling around" among occupations, industries, and employers, it is of interest to know to what extent the mobility can be explained by nonrandom antecedents. Of course, it should be recognized that some of the milling around that typifies the establishment of career thresholds is, nonetheless, functional in terms of providing labor market information upon which later mobility may be more "rationally" based.[6]

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[2] Of course, the analysis could be focused on the much more limited universe of those who took their first jobs in 1966 or later. Some results for this group were generated and are referred to at the relevant points in the discussion below.

[3] See, for example, Jackson and Crockett (1964); Jaffe and Carleton (1954); and Trieman (1975).

[4] See, for example, Aronson (1969); Hauser and Featherman (1974); and Jaffe (1971).

[5] See Blau and Duncan (1967); Duncan, Featherman and Duncan (1972); Gitelman (1966); Saben (1967); Sorenson (1972); and Wise (1975) for examples of the use of retrospective longitudinal data. For some of the methodological problems with these kinds of data see Walsh and Buckholdt (1970). Examples of analysis of panel data that is not retrospective include Kohen (1975); Leigh (1975); and Steinberg (1975).

The second section of the chapter contains the general conceptual underpinnings of the models used in this study to examine occupational change among young men. The next section consists of an analysis of occupational mobility by young men between their first postschool regular job and the job that they held in 1971. The analysis begins with a general overview and then shifts to multivariate models of the probability, direction, and distance of occupational change. The fourth section of the chapter is similarly organized but concentrates on mobility during the five-year period between 1966 and 1971.[7] The final section summarizes the study and sets the conclusions in the contexts of (1) existing knowledge about occupational mobility in general and (2) our understanding of career establishment by young men.

II CONCEPTUAL FRAMEWORK

The eclectic conceptual framework that forms the basis of this study incorporates elements from several different social science perspectives. At the outset it is important to recognize that occupational mobility (by young workers) is not unambiguously defined either in the abstract or in terms of casual observation. On the one hand, it can be defined in terms of change in the status or earnings associated with the occupational assignment. On the other hand, it may be defined in terms of change in the functional attributes of the occupations. Because neither of these approaches is uniquely appropriate, both are investigated here, as is their interrelationship.

In investigating the probability of an upward occupational shift, several sets of determinants are posited. First, assuming that upward mobility is a response by individuals to occupational differentials in rewards, the probability of having access to higher rewards is expected to depend on an individual's stock of human capital resources (both mental and physical) that determine his value in the labor market. Thus, other things being equal (including the level of initial occupational attainment) it is hypothesized that the probability of an upward occupational change will rise with the level of an individual's human capital. Second, *given an individual's level of resources*, the probability of an upward change in occupation is hypothesized to be inversely related to the base-year level of occupational attainment.[8] Hence, while the base-year level of occupation and human capital resources should be correlated strongly and positively, their net independent effects on the probability of upward occupational change are hypothesized to be of opposite sign. It is clear, therefore, that they must enter the analysis simultaneously, for if either were omitted its effect would be partially transmitted by the other and would suppress the "true" effect of the other.

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[6] On a similar point, see Kalachek (1969) pp. 5-6.

[7] While there is some overlap between the data sets used in the two sections, this does not preclude separate and unique analyses. Approximately 50 percent of the employed nonstudents in 1971 had taken their first postschool jobs in 1966 or earlier. However, only 60 percent of the employed nonstudents in 1966 were working (in 1966) at the same job as the one they held upon first leaving school. Hence, for less than one-third of the cases analyzed in the first-to-1971 portion are the jobs identical to those analyzed in the 1966-to-1971 section.

A third set of determinants might be termed constraints on the likelihood of an upward occupational change that are associated with individual attitudes or behavior. Although it is possible to conceive of these constraints as characterizing the individual, they may to some degree reflect market and institutional forces. For example, race is a trait which is clearly a personal characteristic but whose effects on occupational change undoubtedly represent an interplay of personal and institutional forces. Hence, the hypothesis that young black men will, ceteris paribus, exhibit a lower probability of upward movement than young white men is based principally on the presumption that racial discrimination directly inhibits the upward mobility of blacks.[9]

Similarly, while military service per se is not thought to relate directly to the probability of occupational advancement by young men, in conjunction with age and education it affects movement by determining the amount of time in the labor market between the first job and 1971. In this sense, service in the armed forces would be hypothesized to operate as a discontinuity in the career establishment process for most young men. On the other hand, to the extent that vocational training is received during military service, it may facilitate rather than impede occupational advancement.[10] Another personal trait expected to affect the likelihood of an upward move is the strength of a young man's occupational commitment as evidenced by his response to the hypothetical loss of his job. Likewise, those who begin with realistic aspirations for upward mobility should be expected to be more likely than those who do not, actually to achieve the mobility.

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[8] This hypothesis may be justified on several bases, the most obvious of which is the phenomenon of regression toward the mean. That is to say, the higher one begins on the occupational pyramid, the fewer vacancies there are in the labor market that would provide greater rewards. Alternatively, there may be systematic errors in the measurement of occupational level such that high recorded levels overstate and low recorded levels understate the "true" levels of occupational achievement.

[9] Of course, widespread adoption of "affirmative action" programs could reverse this effect.

An additional set of factors expected to affect the likelihood of upward occupational movement includes several aspects of the labor market behavior of the worker during the time interval(s) being studied. Specifically, it is hypothesized that the process and probability of upward occupational change are different for young men who change employers during the period than for those who remain with the same firm. Nearly all prior research that has examined several types of mobility simultaneously has found that ". . . most job changes are 'complex,' i.e., that when a worker changes employers he more often than not also changes either his occupation, his industry or both."[11] The interest of economists and sociologists in "internal labor market" argues for distinguishing between those occupational changes that occur within a firm and those which accompany interfirm mobility.[12]

Among young men who did not change employers--more accurately, those who were with the same employer at both dates--it is relevant to know whether they were geographically mobile. That is, it seems reasonable to hypothesize that promotion will be one of the rewards to geographic relocation while remaining with an employer. It is also of interest to investigate whether there are differences in occupational mobility among young men according to whether they work in the public or private sector of the economy. On the one hand, the pattern of institutionalized employment relations in the government sector may differ from that in the private sector, especially with respect to the scheduled regularity of occupational upgrading. On the other hand, reduced opportunities for advancement in government service may be a trade-off for the greater security of such jobs.[13]

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[10] For a more detailed examination of this issue, see Chapter 6 in this volume.

[11] Parnes (1970), p. 40.

[12] See, for example, the works of Cassell, Doctors and Director (1972); Doeringer and Piore (1971); Faulkner (1974); Reynolds (1961); Steinberg (1975); and Wise (1975).

[13] Recent widespread layoffs of municipal employees in the wake of urban fiscal crises attest vividly to the fact that job security in the public sector is far from inviolate.

Among young men who left and did not return to their first employer it is expected that those who did so voluntarily are more likely than those who left involuntarily to have moved up the occupational ladder. That is, voluntary movers are assumed to have been more successful in maximizing their rewards from working. Analogous reasoning underlies the expectation that occupational advancement will be more likely among those who also moved geographically.

III OCCUPATIONAL MOBILITY: FIRST JOB TO 1971 JOB

Overview of Occupational Changes

The purpose of this overview is to describe in broad terms the occupational changes that occurred between the time the young men took their first postschool jobs and 1971. In doing this we rely upon movement between major occupation groups, i.e., the one-digit categories in the Census occupational classification scheme. We begin with a discussion of net mobility, move on to consider gross occupational flows, and conclude with a brief comparison between these results and results for men who were approximately one generation older.

Net mobility While the men under study had been out of school for less than six years, on average, as of 1971, they had experienced substantial occupational mobility during that period. In fact, only about two-fifths of them were in the same major occupation group in 1971 as that in which they held their first postschool job.[14] As can be seen from Table 4.1, there is a notable net increase in high-level white collar employment along with declines in the proportions in nonfarm laborer and farm jobs. The upward career progression is also clearly evidenced by the nearly two-fold net increase in the proportion working as craftsmen.

While young men of both races are seen to have made occupational advances, there are some disquieting racial differences. First, young blacks entered managerial positions far less rapidly than did whites, even when one focuses on wage and salary workers only, and thus abstracts from the greater access of whites to financial capital for becoming self-employed.[15] By 1971 whites were 8 percentage points more

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[14] There are 10 major occupation groups in the 1960 classification system of the Bureau of the Census. Because most of our focus is on young wage and salary workers, the ninth (farmers and farm managers) and tenth (farm laborers) groups have been aggregated into a single category of farm workers.

[15] The numbers cited in the text are based on a tabulation not shown here that replicated Table 4.1 for wage and salary workers only.

Table 4.1 Major Occupation Group of First Job after Leaving School and Job in 1971 Survey Week, by Race

(Percentage distributions)

Major occupation group	WHITES		BLACKS	
	First[a]	1971	First[a]	1971
Total percent	100	100	100	100
Professionals, technicians	11	13	2	4
Managers	4	12	1	2
Clerical workers	9	7	7	10
Sales workers	5	6	2	1
Craftsmen	13	24	7	14
Operatives	29	24	22	37
Nonfarm laborers	16	6	26	18
Service workers	5	4	18	9
Farm workers	8	4	16	5
Number of respondents	1,633	1,633	580	580

UNIVERSE: Males 19 to 29 years of age in 1971 who had left school prior to October 1970 and who were employed in the 1971 survey week.

a Percentage distribution calculated excluding 43 white and 15 black respondents whose first jobs were in the military service.

likely than blacks to be salaried managers, whereas this differential was only 4 percentage points at the time first jobs were taken. Also, while the proportion of semiskilled workers (operatives) declined among whites, it increased among blacks. Overall, an index of inter-occupational segregation of the racial groups has a value of 31 in the case of the first job and 34 in 1971,[16] indicating a slight

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[16] This index has a range of values from 0 to 100, with the degree of segregation increasing as the index increases. The index is calculated as one-half of the sum of the absolute deviations between the occupational percentage distributions of blacks and whites. Symbolically it is

$$\frac{\sum_{i}^{N} |W_i - B_i|}{2}$$

where W_i (B_i) is the percent of whites (blacks) employed in the ith occupation.

increase in the racial difference in occupational distribution. Of course, this white/black difference is gross of many factors which both differ between the races and relate to occupational advancement. Therefore, more definitive treatment of racial differences must await the multivariate analysis that follows below.

Gross mobility It is well known that net changes in the labor market status of a group over a period of time may conceal as much as they reveal about mobility patterns. Thus, while the changes in the distributions shown in Table 4.1 could have come about through the movement of as few as 20 percent of the white and 30 percent of the black young men, transition matrices indicate that about two-thirds of the men actually crossed the boundaries of major occupation groups between their first and 1971 jobs (Table 4.2). Of course, this proportion varies substantially according to the occupation group of the initial job. As would be expected, men who began their work lives in professional technical positions exhibit the least mobility across occupational lives, whereas the highest rates of mobility are found among those who began as nonfarm laborers. It is also not surprising that although the transition matrix contains examples of nearly every type of move between occupational groups, some types of change are more likely than others. For whites and blacks alike, those departing a first job in a blue collar category most typically had another blue collar category as a destination in 1971. For example, about three-fifths of those who left first jobs as operatives were either craftsmen or nonfarm laborers in 1971. Likewise, more than half of the white young men who left white collar first jobs were still in white collar positions in 1971.

An intergenerational comparison Compared with men approximately a generation older, the young men began their work careers at higher levels, which is wholly consistent with two secular trends, namely the decline in the agricultural sector of the U.S. economy and the increasing average educational attainment of the population.[17] Both black and white young men were only half as likely as their fathers[18] to have started out as farm workers. The whites were one-third again as likely as their fathers to have begun in professional, technical, or managerial positions; and the blacks were three and one-half times as likely as their fathers to have started out as skilled craftsmen. Nevertheless, about equal fractions of the two generations (one in six whites and one in four blacks) took their first postschool jobs as nonfarm laborers. While the sons in both racial groups evidently began their work careers in more advantageous positions than did the fathers, there is little evidence of secular changes in occupational differentiation of the

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[17] Kohen (1975), p. 118.

[18] The two age cohorts are referred to as father and son generations strictly for convenience of exposition.

Table 4.2 Major Occupation Group of First Job, by Major Occupation Group of 1971 Job and Race

(Percentage distributions)

Major occupation group of first job	Major occupation group of 1971 job										Number of respondents
	Total percent	Professionals, technicians	Managers	Clerical workers	Sales workers	Craftsmen	Operatives	Nonfarm laborers	Service workers	Farm workers	
	WHITES										
Professionals, technicians	100	77	7	4	4	3	2	1	1	1	176
Managers	100	10	56	10	14	4	5	2	0	0	64
Clerical workers	100	10	20	29	7	17	10	4	3	0	145
Sales workers	100	7	16	9	28	13	14	4	5	4	84
Craftsmen	100	6	9	3	4	44	21	8	2	1	204
Operatives	100	4	8	5	5	30	36	7	3	2	480
Nonfarm laborers	100	4	1[illegible]	4	2	25	36	11	5	1	260
Service workers	100	0	11	6	3	15	24	10	27	4	81
Farm workers	100	0+	5	0+	2	24	29	6	2	30	139
	BLACKS										
Professionals, technicians	100	@	@	@	@	@	@	@	@	@	13
Managers	100	@	@	@	@	@	@	@	@	@	3
Clerical workers	100	5	8	29	0	23	20	11	4	0	42
Sales workers	100	@	@	@	@	@	@	@	@	@	10
Craftsmen	100	10	0	17	0	25	16	10	20	2	41
Operatives	100	1	3	7	0	16	48	16	6	2	129
Nonfarm laborers	100	3	1	5	1	17	46	20	6	0	141
Service workers	100	4	1	8	0	8	36	20	22	1	102
Farm workers	100	0	1	5	0	7	31	22	4	30	99

UNIVERSE: See Table 4.1.

@ Percentage distribution not shown where base contains fewer than 25 respondents.

0+ Indicates nonzero value rounded to zero.

races. As noted earlier, the index of racial segregation for the first jobs of the sons is 31, which is virtually identical to the index value of 30 for the first jobs of the fathers.[19]

Results of the Multivariate Analysis

Introduction Having described the broad contours of occupational mobility since the first postschool jobs of young men, we turn now to testing the hypotheses about mobility that are embodied in the conceptual framework presented above. The statistical technique employed is multiple linear regression. In the analyses of the probability of moving up the occupational ladder, the technique is essentially the estimation of a linear probability function. To investigate possible nonlinearities and interactions the equations contain qualitative variables and are estimated for several strata of the total group of young men (the stratification being equivalent to specifying interactions between the stratification variables and the other hypothesized determinants of mobility). The details of the specifications are enumerated below.

Probability of upward occupational mobility The probability of being upwardly mobile is operationalized in a dichotomous variable that assumes the value "1" if the young worker moved up the occupational ladder between his first postschool job and his 1971 job, and "0" if he did not.[20] The determination of upward change is based on the sign difference between the Duncan Index[21] scores of the occupations; i.e., if the 1971 score minus the first job score is greater than zero, the move is defined as upward.[22]

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[19] Kohen (1975), p. 119.

[20] Actually, three alternative variables were used to operationalize the likelihood of upward movement. Because the three variants yield nearly identical results, only those results based on the most conventional measure are shown in the text tables. The parallel results for the other two variables are displayed in appendix tables and are referred to at relevant points in the discussion. In the results shown in Appendix A, determination of the direction of change is based alternatively on an increase of 0.5 or more in the GED score or an increase of 0.5 or more in the SVP score of the occupations. The former score is a classification scheme by which each three-digit occupation is coded according to the General Educational Development (in years) required for satisfactory performance of the job. The latter score represents a categorization based on the Specific Vocational Preparation (in years) required for satisfactory performance. For details on these schemes see Scoville (1969).

[21] The Duncan Index is a two-digit socioeconomic status score assigned to each three-digit occupation in the Census classification scheme. For details see Duncan (1961).

To operationalize the conceptual framework presented earlier, the following explanatory variables are employed. Occupational achievement level of the first job is specified as the Duncan Index score (DUNCFJ). As indicated, it is expected that the net partial regression coefficient of this variable will be negative. Because there are many human capital resources affecting an individual's value in the labor market, several variables are used to represent this construct. The first is the amount of formal schooling completed, measured by the actual number of years completed (EDYRS71).[23] As explained above, the regression coefficient is expected to have a positive sign.

Second, a series of binary variables denoting whether the worker had received a particular type of postschool civilian formal vocational training are introduced (i.e., TRAINCP71, TRAINCM71, TRAINCC71 and TRAINCS71 designating professional/technical, managerial, clerical, and skilled manual training, respectively). Since the reference group is those without any training, all of the coefficients are expected to be positive.[24] So as to exhaust the possible sources of formal training, the model also contains a binary variable denoting whether the respondent is a veteran of the armed forces (VETANY71). Because veteran status may be a proxy both for human capital resources and for a discontinuity in career development, the sign of the coefficient for VETANY71 will reflect the strength of these competing forces represented by the variable.

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[22] Unlike our similar study based on data for middle-aged men, it did not seem appropriate to dismiss broad groups of occupational pairs as "illegitimate" instances of change. Illustrative of the broad groups of pairs treated as "illegitimate" for the older men are: any specified professional or technical job (Census codes 000-194) coupled with any job as an operative (Census codes 601-775). Nevertheless, the several sources of potential measurement error dictated detailed examination of the nearly 2,000 observations under study. For details on the sources of error see Kohen (1975) pp. 128-29. This examination produced about 150 cases of almost certain error in the assignment of an occupational change designation and these cases were therefore excluded from the analysis. Illustrative of these cases is the respondent who was still with his first employer in 1971 but had ostensibly retrogressed from an economist (code 172) to a welder or flame-cutter (code 721). Another example is the respondent who apparently changed from working as an engineering technician (191) to working as a laborer (985) without changing employers in an industry described as tobacco manufacturing.

[23] Although not shown here, all of the equations were re-estimated, substituting a set of binary variables denoting several completion levels (ED:HS71, ED:<BA71, ED:BA+71) where the reference group was those who never acquired a high school diploma. We refer to these results only when they indicate a major departure from monotonicity or linearity in the effect of education. Also, note that education as of 1971 is equivalent to education as of first postschool job for the universe being studied.

A third measure of the human capital stock of a worker included in the model is the score on the 1966 test of labor market information (OCCINF). In view of the fact that the model does not contain a separate measure of mental ability,[25] this variable cannot be interpreted to represent solely the effect of occupational information on the probability of upward mobility. However, since general mental ability and the amount of occupational information are highly positively correlated,[26] and since both would be expected to be related positively to upward movement, the coefficient of OCCINF is hypothesized to have a positive sign.

A fourth component of the human capital stock that is included in the model is the total number of months of (potential) civilian labor market experience (EXPER71), whose coefficient is also expected to be positive. Finally, a binary variable representing the respondent's state of physical health is included. It distinguishes (as code "1") those who reported a work-limiting condition of at least one year's duration between leaving school and 1971 (HLTHLMTFJ/71).[27] The coefficient for the variable is expected to exhibit a negative sign.

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[24] Of course, there is ambiguity about the causal direction in the relationship between the acquisition of training and the likelihood of upward mobility because neither variable is dated precisely. Thus, a positive relationship may be evidenced either because workers who receive training are more likely to move upward or because an upward change in occupational assignment is likely to require subsequent training.

[25] The IQ variable is omitted so as not to truncate the sample with respect to educational attainment and beginning occupational level. The truncation would result from the unavailability of the IQ variable for those who completed fewer than nine years of formal schooling.

[26] Parnes and Kohen (1975).

[27] In preliminary analyses, those with health limitations lasting the entire period between school completion and 1971 were separately identified. However, there proved to be far too few respondents with health problems to permit confident analysis of the separate groups.

In order to investigate the relationship between occupational mobility and other aspects of the worker's labor market behavior subsequent to his first job, several techniques are utilized. First, the equations are estimated separately for those who had left their initial employer by 1971 and those who had not, permitting analysis of differences between internal and external labor markets. Second, a binary variable distinguishing those who were geographically mobile during the period is included in the model (GEOMOBFJ/71). The underlying hypothesis is that interarea movers are more likely to be upwardly mobile, independent of other characteristics. Third, for those who had separated from their first employer by 1971, binary variables are included to investigate the association between voluntariness of interfirm mobility and the likelihood of occupational mobility (ΔEMPVOLFJ and ΔEMPNAFJ).[28] The coefficient on the dummy variable identifying voluntary movers is expected to exhibit a positive sign. Finally, the model for young workers who remained with their initial employer contains a dummy variable that identifies (as code "1") those working for some branch or agency of the municipal, state, or federal government (PUBLICFJ).

In order to represent what were referred to earlier as personal characteristics that can be seen as constraints on the likelihood of upward mobility, race is used to stratify the respondents in the statistical analysis. This facilitates investigation and quantification of the sources of racial differences to the extent that they are observed.

As a summary of the hypotheses set forth above, Table 4.3 contains a list of the variables explicitly included in the models of the probability of upward occupational mobility between the first postschool job and the 1971 job. The expected directions of the effects of the variables are also displayed.

Regression results The empirical estimates of the parameters of the variants of the model are displayed in Table 4.4 and Appendix Table 4A.1. Overall they explain between one-seventh and three-tenths of the variance in the probability of an upward occupational shift, depending on the operational definition of mobility and the stratum within which the model is estimated.[29] Further, results provide strong support for the a priori

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[28] The second variable (ΔEMPNAFJ) is included because the method of collecting data on the reason for job changing prior to 1967 does not permit identification of the reason that some respondents left their first employer. This problem arises for 21 percent of the whites and 19 percent of the blacks.

[29] Irrespective of the stratum or the definition of the dependent variable, the mean value of the latter lies in the range .26 - .60, implying that OLS regression techniques are suitable.

Table 4.3 Models of the Probability of Upward Occupational Mobility[a] between First Postschool Job and 1971

(Sign indicates direction of hypothesized effect)

Explanatory variables[b]	Same employer as first job	Different employer than first job
Educational attainment (EDYRS71)[c]	+	+
Formal civilian vocational training		
(TRAINCP71)	+	+
(TRAINCM71)	+	+
(TRAINCC71)	+	+
(TRAINCS71)	+	+
Amount of occupational information (OCCINF)	+	+
Military experience and training (VETANY71)	?	?
General work experience (EXPER71)	+	+
Work-related health problem (HLTHLMTFJ/71)	-	-
Geographic mobility (GEOMOBFJ/71)	+	+
Sector of employment (PUBLICFJ)	?	d
Reason for leaving first job		
(ΔEMPVOLFJ)	d	+
(ΔEMPNAFJ)	d	?
Initial occupational attainment (DUNCFJ)[a]	-	-

a Upward mobility is defined alternatively in terms of an increase in the Duncan Index score, the GED score or the SVP score. In the three forms of the equation(s) the initial occupational achievement is operationalized as DUNCFJ, GEDFJ, and SVPFJ respectively.

b For detailed descriptions of the variables see the Glossary.

c The variable was also alternatively specified in terms of the binary variables ED:EL71, ED:HS71, ED:<BA71 and ED:BA+71, where the first in the series was the omitted category.

d Variable does not apply to this subgroup.

stratification--i.e., there are obvious differences in the determinants of upward occupational mobility according to race and according to whether the young worker left his first employer.

Overall, young men who remained with their first postschool employer were far less likely than those who left to have moved up the occupational ladder. However, this is partly an artifact stemming from the lower rate of occupation-shifting among the former group (Appendix Table 4A.2). For example, short of an internal reorganization of a firm, it is much more likely that a worker will be performing essentially the same tasks but under different job titles at two different points in time if he has changed employers. Also, intrafirm occupational shifts may be "disguised" by a limited set of job titles with several grades within titles.[30]

Since interfirm movers and nonmovers, as well as blacks and whites, differ with respect to several characteristics that are hypothesized to affect upward mobility, the source of the above noted differences in upward mobility is not immediately clear. For example, as compared to the stayers, those who had left their first employer by 1971 tended to be less well-educated, older, and to have had first jobs lower in the occupational hierarchy. After considering the findings concerning the hypothesized determinants it will be possible to decompose the racial and mover/stayer differences with more confidence.

The constraining effect of a young man's starting occupational level on the likelihood of subsequent upward mobility is very significant in all strata and, at least for whites, seems to be more pronounced for those who left their first employer than for those who did not. The implication of this is quite clear. The higher a young man begins on the occupational ladder, ceteris paribus, the less likely he is to move up the ladder. A reasonable interpretation of this finding would seem to be that young men who obtain high level first positions by virtue of their human capital skills, job search efforts, etc., are more likely to have maximized their occupational achievement and, therefore, to have less need to incur the costs associated with seeking different occupations.

In general, there is convincing evidence that, holding starting occupation constant, the level of human capital resources of a young worker is positively related to the probability of upward occupational change. However, some human capital resources are evidently less important in obtaining promotions in internal labor markets than where a worker changes firms. That is, among those who had left their initial employer, the coefficients for education and the civilian training variables are highly significant, as is the coefficient for the mental ability/information variable (OCCINF). Among those who remained with their first employer, only the latter variable is consistently significant, with the receipt of managerial training also showing some evidence of being associated with upward mobility.[31] Indeed, ability and/or information appear to have a more profound influence on internal promotability than on upgrading associated with interfirm movement. Also, only among those who remained with their initial employer does EXPER71 carry a significant coefficient, and for this group it is undoubtedly a proxy for seniority, whose effects on promotions are well documented. Finally, work-related health limitations exhibit a constraining effect on advancement only in internal labor markets, suggesting that those with the most severe disabilities do not change firms because of an aversion to the associated risks, even though they thus limit their chances for occupational advancement.[32]

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[30] In addition, it is easier to be confident of the improbability of a given "observed" occupation change if there is no change of employer. That is, in reviewing the data on a case-by-case basis, relatively more respondents were deleted from the analysis for "illegitimate" changes if they were still with their first postschool employer in 1971.

None of the remaining hypothesized determinants of the likelihood of moving up occupationally receives support from the regression results. Notably, the data provide no support for the commonly held belief that young men who accept interarea transfers with a firm are more likely to advance. Likewise, being geographically mobile does not appear to enhance the probability of upward movement among interfirm movers. Also worthy of note is that leaving an employer voluntarily rather than involuntarily does not, on average, improve a young man's chances of moving up the occupational ladder.[33] Finally, although the coefficient of PUBLICFJ is not significant, the persistence of a negative sign (Table 4.4 and Appendix Table 4A.1) suggests that young white men in government jobs advance more slowly than their counterparts in the private sector.

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[31] Understandably, the education variable is found to be statistically significant in internal labor markets when upward mobility is defined in terms of a variable more directly related to change in skill level (Appendix Table 4A.1). However, the impact of the vocational training measures remains negligible. When the universe is restricted to young men who took their first job after 1966, even the positive effect of managerial training is not discernible.

[32] This is consistent with the finding in Chapter V that health limitations inhibit successful job search in advance of voluntarily leaving an employer.

[33] Although the coefficient of ΔEMPVOLFJ has a negative sign in four of the six equations, it does have a significantly positive value in the SVP equation for white interfirm movers (Appendix Table 4A.1). There is no readily apparent explanation for these disparate results.

Returning briefly to an issue raised in the overview, the regression results provide no evidence of a systematic racial difference in the likelihood of occupational progress between the first postschool job and 1971, for those who left their first employer. However, this equality between whites and blacks is produced by a composite of opposing forces. On the one hand, blacks should be expected to exhibit a higher likelihood of upward movement because they began in lower status jobs and because beginning position is strongly inversely related to the probability of advancement. On the other hand, the generally lower levels of human capital resources of black youth, as would be expected, act as depressants on their advancement relative to white young men. A noteworthy exception to this generalization is that young blacks received a larger payoff than did whites to professional/technical training received outside of school, although the reverse was true for other types of white collar training. While these results are consistent with the form of racial discrimination commonly known as "tokenism," they are also consistent with employer adherence to government-mandated "affirmative action" programs.

Distance of occupational mobility In this section we turn from an analysis of the probability of upward occupational movement to an analysis of the distance of vertical movement in either direction. For this purpose the analysis is confined to those workers who changed occupations (including the laterally mobile) between their first and 1971 jobs. Distance is measured as the arithmetic difference between occupational status in 1971 and occupational status on the first job (1971 minus first), using the Duncan Index as the measure of status. Hence, upward mobility is recorded as a positive difference, downward mobility as a negative difference, and lateral mobility as no difference.[34]

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[34] Because there is a rather fundamental flaw in measuring the mobility distance between certain occupations, an arbitrary positive value of "5" was assigned to respondents who exhibited those types of changes. The flaw arises because the procedure used by Duncan assigns lower scores to the journeyman and/or master level positions than to the apprentice level positions of some craft occupations. We attribute this flaw to inadequate standardization for age composition, because it appears that the higher scores for apprentices than for journeyman/masters derive from the higher average educational attainment of the former group. Thus, the secular trend of rising educational attainment produced an artifact that apparently was ignored in constructing this widely used index. Of course, this casts some doubt on all other empirical studies that have examined the lifetime mobility of males. An example of the problem may be found by comparing the index score for apprentice carpenter to that for carpenter.

Table 4.4 Regression Results: The Likelihood of Upward Occupational Mobility[a] between First Postschool Job and 1971, by Race and Comparison of First and 1971 Employer

(Coefficients shown in percentage points)

(Absolute t-values in parentheses)

Explanatory variables[b]	WHITES				BLACKS[c]	
	Same employer		Different employer		Different employer	
EDYRS71	2.2	(1.18)	3.7	(4.83)**	2.8	(2.37)**
TRAINCP71	-	(0.06)	11.8	(3.54)**	19.1	(2.25)**
TRAINCM71	21.3	(2.55)**	14.1	(2.87)**	2.5	(0.19)$^{@}$
TRAINCC71	4.6	(0.39)$^{@}$	23.8	(3.71)**	32.6	(1.79)$^{@}$
TRAINCS71	2.5	(0.35)	2.0	(0.66)	1.4	(0.25)
OCCINF	1.1	(2.38)**	0.4	(2.17)**	0.6	(1.72)**
VETANY71[d]	-2.7	(0.34)	2.2	(0.70)	-5.6	(1.01)
EXPER71	0.2	(1.85)**	0.0^-	(0.11)	0.0^+	(0.57)
HLTHLMTFJ/71	-19.9	(2.17)**	4.0	(1.03)	1.6	(0.24)
GEOMOBFJ/71	1.8	(0.24)	2.3	(0.79)	1.0	(0.21)
PUBLICFJ[d]	-10.9	(1.28)	e		e	
ΔEMPVOLFJ	e		-1.5	(0.45)	-1.7	(0.30)
ΔEMPNAFJ	e		2.8	(0.07)	7.9	(1.14)
DUNCFJ	-0.7	(4.80)**	-1.4	(18.13)**	-1.7	(9.13)**
Constant	-11.2	(0.53)	29.3	(3.31)**	37.2	(3.13)**
$\bar{R}^2$	.14		.24		.17	
F-ratio	5.04		26.87		8.17	
Number of respondents	293		1,119		451	
Dependent variable (mean, std. dev.)	34.8 47.7		59.2 49.2		60.2 49.0	

UNIVERSE: Males 19 to 29 years of age in 1971 who were last enrolled in school in October 1970 or earlier, employed in the 1971 survey week, and whose first job after leaving school was other than as a farmer or an unpaid family farm worker.

a Upward mobility is defined as an increase in the Duncan Index score associated with the three-digit occupation.

b For a detailed description of the variables, see the text and the Glossary.

c There were too few black respondents who stayed with their first employer through 1971 to permit analysis of the group.

d Two-tailed tests of statistical significance are applied to this variable.

e The variable does not apply to this equation.

@ Coefficient based on fewer than 25 respondents.

0^+ Indicates nonzero value rounded to zero.

0^- Indicates negative nonzero value rounded to zero.

* Statistically significant at .10 level.

** Statistically significant at .05 level.

Although the focus is narrowed to the occupationally mobile, the model employed is nearly the same as that used in analyzing the probability of upward movement. The single exception is that the variable representing sector of employment (PUBLICFJ) is omitted from the distance model. The variable is excluded because nearly all young government workers who remained with their first employer were eliminated by confining the analysis to occupation changers.

It is worth noting that the model does a better job of explaining the distance moved by the occupationally mobile than of explaining the probability of upward movement. The explanatory power of the equations (adjusted for degrees of freedom) ranges as high as 39 percent (Table 4.5).[35] All in all, the results indicate that the determinants of the distance of mobility are much the same as the determinants of the probability of upward movement. Yet, there are some noteworthy differences. Among young white men who remained with their first employer, education and training have only a minimal impact on the likelihood of upward movement but clearly pay off in terms of how far an occupationally mobile worker advances. Contrariwise, seniority and health status evidently determine who moves up but are unrelated to how far they move.

In the equations for workers who left their first employers, there are even fewer differences. Among whites, there is evidence that those who left voluntarily did move further up the status hierarchy than those who left involuntarily. The coefficient of EMPVOLFJ is virtually the same for blacks and whites, but it does not achieve significance for the former group. It may be that the large, significant coefficient of EMPNAFJ for blacks actually represents an advantage of voluntary movement, but the nature of the data makes this purely speculative.

Returning again to the issues of racial differences, it is evident from the distance equations that young black men who left their first employer exhibit less occupational progress than do their white counterparts. In order to understand this phenomenon, it is possible to decompose the intercolor difference into a portion attributable to differences in the average characteristics of whites and blacks and

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[35] One way of evaluating the extent to which the "model" rather than "regression-toward-the-mean" explains variation in distance of occupational change is to compare the maximum explanatory power of the first year occupation (i.e., the square of the zero-order correlation between DUNCFJ and ΔDUNCFJ/71) with the explanatory power of the entire equation (unadjusted for degrees of freedom). For example, among white young men who stayed with their first employer these two figures are .13 and .35, indicating that about three-fifths of the power of the equation is due to the human capital variables, personal characteristics, and educational variables. For the other equations this proportion ranges from one-third to one-half.

Table 4.5 Regression Results: Distance of Occupational Mobility[a] between First Postschool Job and 1971, by Race and Comparison of First and 1971 Employers

(Absolute t-values in parentheses)

Explanatory variables[b]	WHITES				BLACKS[c]	
	Same employer		Different employer		Different employer	
DUNCFJ	-0.4	(5.57)**	-0.8	(22.31)**	-0.9	(13.90)**
EDYRS71	1.4	(1.43)*	2.5	(7.34)**	2.1	(4.74)**
TRAINCP71	-0.1	(0.02)	9.4	(6.36)**	4.2	(1.38)*
TRAINCM71	8.0	(1.99)@	12.6	(5.86)**	-0.4	(0.09)@
TRAINCC71	7.2	(1.14)@	12.2	(4.35)**	7.2	(1.15)@
TRAINCS71	7.5	(2.05)**	-2.7	(2.12)	2.1	(1.02)
VETANY71[d]	0.4	(0.09)	-1.5	(1.10)	-2.7	(1.36)
EXPER71	0.0^+	(0.68)	0.0^+	(1.15)	-0.1	(2.67)
OCCINF	0.8	(3.52)**	0.4	(4.10)**	0.3	(2.63)**
HLTHLMTFJ/71	3.6	(0.59)	0.1	(0.07)	4.1	(1.66)
GEOMOBFJ/71	-5.4	(1.28)	1.1	(0.84)	0.5	(0.30)
ΔEMPVOLFJ[d]	e		2.0	(1.40)*	2.1	(1.01)
ΔEMPNAFJ	e		1.3	(0.74)	5.4	(2.16)**
Constant	-24.1	(2.15)**	-17.8	(4.37)**	-9.7	(2.20)**
$\bar{R}^2$	.30		.39		.34	
F-ratio	6.20		47.82		16.59	
Number of respondents	136		944		395	
Dependent variable (mean, std. dev.)	12.1 18.9		11.4 22.3		7.0 18.7	

UNIVERSE: Males 19 to 29 years of age in 1971 who were last enrolled in school in October 1970 or earlier, employed in the 1971 survey week, whose first job after leaving school was other than as a farmer or as an unpaid family farm worker and who changed three-digit occupations between their first and 1971 jobs.

a-e See Table 4.4 footnotes a-e.

@ Coefficient based on fewer than 25 respondents.

0^+ Indicates nonzero value rounded to zero.

0^- Indicates negative nonzero value rounded to zero.

* Statistically significant at .10 level.

** Statistically significant at .05 level.

a portion attributable to racial differences in the manner in which those characteristics influence the distance of upward mobility. For example, since the measure of ability/information is positively related to the distance moved, and since young white workers have a higher average value on this measure, one would expect more advancement by whites, even if ability/information "paid off" at the same rate for the two races. Alternatively, since blacks, on average, begin in lower status jobs, and since beginning position is inversely related to the distance of upward movement, one might expect more advancement among blacks.

In order to decompose the observed difference, two "simulation" calculations are employed. The first simulates the distance of upward movement for blacks by assuming that they receive the same "payoff" to their characteristics as whites do--i.e., by evaluating the white equation at the mean values for blacks. The second estimates the distance of mobility for blacks by assuming that they had the average characteristics of whites--i.e., by evaluating the black equation at the mean values of the determinants for whites. Each simulation is performed only for those who left the employer of the first job. Using these simulation techniques leads to the conclusion that if young black workers had the same opportunities (or payoffs) as their white counterparts, they would have advanced farther than they actually did but not so far as the whites did. Specifically, assuming the same opportunities or payoffs for whites and blacks who changed employers, the latter would have moved up 8.9 points, on average, on the ordinal index, as compared to the 11.4 and 7.0 point observed movements by whites and blacks respectively. From the alternative perspective of assuming that blacks and whites started with the same characteristics but had the payoffs to those characteristics shown by the separately estimated equations, young blacks would have advanced 9.8 points on average. Thus, contrary to some published research extolling the 1960's as a period of growing racial economic equality in the U.S.,[36] these findings strongly indicate that young black men were not able to hold their own occupationally because of disadvantaged starting points and discriminatory treatment in the labor market.[37]

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[36] See, for example, Horowitz (1974); Masters (1975), Chapter 5; and Vroman (1974).

[37] When the equation is estimated with categorical measures of educational attainment instead of the continuous years measure, there is some evidence that the payoff (in occupational mobility terms) to completing college may have been somewhat higher for blacks than for whites. That is, the coefficients for ED:BA+71 are +25.9 for whites and +32.4 for blacks. This may be the result of "affirmative action" programs that prevailed during the period.

IV OCCUPATIONAL MOBILITY: 1966-1971

Overview of Occupational Changes

Net mobility As in the preceding section, a broad overview of the occupational changes to be studied is useful in setting the scene. Once again, we use movement among the major occupation groups as a point of departure. This group of workers evidenced substantial occupational movement from 1966, when they averaged only two to three years of work experience, to 1971. Indeed, somewhat more than half were in different major occupation groups at the times of the 1966 and 1971 surveys. As can be seen in Table 4.6, this movement is largely consistent with the patterns one would expect as career thresholds are crossed, i.e., mobility is generally upward. While there is somewhat less movement evident in the five-year period than was found in Section III for the span between the first and 1971 jobs, the same patterns are evident here. Moreover, the racial differences in occupational distribution and mobility are even more pronounced in the 1966-1971 period. Thus, the index of racial segregation (for wage and salary workers) has a value of 28 in 1966 and 33 in 1971, indicating a widening of the gap.

Gross mobility As demonstrated earlier, net changes in occupational distribution may conceal as much as they reveal about the dynamics of labor market behavior. Whereas the changes in the distributions shown in Table 4.6 could have been brought about by the movement of as little as 10 to 14 percent of the young workers, transition matrices indicate that 55 to 60 percent of the men actually crossed from one major occupation group to another between their 1966 and 1971 jobs (Table 4.7). Again one finds that movement tends to stay within type-of-occupation lines (i.e., white collar or blue collar) but is by no means confined in that way.

An intergenerational comparison Not unexpectedly, as compared with men of their fathers' generation, these young men were far more mobile between occupations during the five-year period.[38] Whereas fewer than one quarter of the men 50 to 64 in 1971 had changed major occupation groups since 1966, nearly three-fifths of those 19 to 29 in 1971 had done so. Nevertheless, there are some striking similarities in the mobility patterns of young and middle-aged men over this time span. First, in both age cohorts of whites, those in professional/technical, craft, and farm jobs exhibit the highest (and nearly identical) stability rates, although, of course, the older men were uniformly more stable than the younger. Second, in both age groups of whites, nonfarm laborers are by far the most mobile group. These similarities lend credence to the belief that some types of occupations intrinsically have less "holding power" than others, irrespective of

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[38] Kohen (1975).

Table 4.6 Major Occupation Group of Job in 1966 Survey Week and Job in 1971 Survey Week, by Race

(Percentage distributions)

Major occupation group	WHITES		BLACKS	
	1966	1971	1966	1971
Total percent	100	100	100	100
Professionals, technicians	9	8	1	2
Managers	4	13	1	2
Clerical workers	8	6	7	6
Sales workers	5	5	0	0^+
Craftsmen	22	27	12	15
Operatives	32	27	36	42
Nonfarm laborers	10	6	19	17
Service workers	5	5	15	9
Farm workers	5	4	10	6
Number of respondents	1,012	1,012	369	369

UNIVERSE: Males 19 to 29 years of age in 1971 who were not enrolled in school and were employed in both the 1966 and 1971 survey weeks.

0^+ Indicates nonzero value rounded to zero.

Table 4.7 Major Occupation Group in 1971, by Major Occupation Group in 1966 and Race

(Percentage distributions)

Major occupation group in 1966	Total percent	Major occupation group in 1971: Professionals, technicians	Managers	Clerical workers	Sales workers	Craftsmen	Operatives	Nonfarm laborers	Service workers	Farm workers	Number of respondents
WHITES											
Professionals, technicians	100	54	15	8	7	4	6	2	2	0^+	85
Managers	100	5	46	7	7	8	15	5	2	5	43
Clerical workers	100	4	26	26	8	14	10	4	6	2	81
Sales workers	100	4	38	9	28	9	10	0	0	2	47
Craftsmen	100	4	10	4	2	54	17	7	1	0^+	212
Operatives	100	4	6	4	2	26	49	5	3	2	339
Nonfarm laborers	100	2	5	5	7	25	33	13	6	3	99
Service workers	100	0	16	2	4	10	14	9	44	0	48
Farm workers	100	2	7	0	2	16	14	7	3	50	58
BLACKS											
Professionals, technicians	100	@	@	@	@	@	@	@	@	@	5
Managers	100	@	@	@	@	@	@	@	@	@	3
Clerical workers	100	0	10	22	3	4	44	12	2	3	26
Sales workers	100	@	@	@	@	@	@	@	@	@	0
Craftsmen	100	0	0	5	0	36	36	15	8	0	43
Operatives	100	1	1	2	1	15	58	16	4	3	125
Nonfarm laborers	100	0	0	15	0	8	44	22	7	3	72
Service workers	100	1	6	3	0	19	24	14	34	0	49
Farm workers	100	0	0	4	0	5	21	24	4	43	46

UNIVERSE: See Table 4.6.

@ Percentage distribution not shown where base contains fewer than 25 respondents.

0^+ Indicates nonzero value rounded to zero.

the characteristics of their incumbents. Specifically, those occupations that require the highest levels of formal skill acquisition for satisfactory performance exhibit the lowest attrition rates of incumbents at all stages of the life cycle.

A comparison of NLS and Census data The data on gross mobility that are displayed in Table 4.7 may be compared with retrospective longitudinal data generated by questions contained in the 1970 decennial Census. Using the published information from the Census five-percent sample, a comparable matrix can be constructed (Appendix Table 4A.3). While there are several significant differences between the matrices, they can be used for broad comparative analysis.[39] Understandably, the overall rate of mobility is higher in the NLS data than in the Census data (56 versus 47 percent).[40] In nearly all instances in which sample sizes permit confident comparison, this difference is seen to persist. Nevertheless, similar patterns of mobility may be discerned in the two data sets. For example, both show stability to be greatest among professional/technical workers and craftsmen. Likewise, both show that young blue collar workers who move tend to stay within the blue collar ranks. Finally, the Census data corroborate the finding that young black men working as operatives are among the most stable of the occupational groups for blacks, even less mobile than those who began the period as craftsmen.

Results of the Multivariate Analysis

Introduction The method of operationalizing the conceptual framework as it applies to the five-year period is nearly identical to that used in the analyses of occupational mobility from first job to that held in 1971. Of course the base-year variables are dated as of 1966, and measures of change apply to the 1966-1971 period. For expediency of exposition, the variables in the models that are exact counterparts to those used in Section III (except for dating) are not described below but are included in the summary table preceding the presentation of the results.

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[39] One major difference is that Table 4.7 (NLS) excludes young men who were students either in 1966 or in 1971, whereas Appendix Table 4A.3 (Census) does not. This probably serves to inflate the Census mobility rates relative to the NLS rates. A second major difference is that the Census data for this age group show relatively larger population estimates because of the high rate of induction into the armed forces during 1966. That is, there simply were fewer males in the relevant age range in the civilian labor force in 1966 than in 1965. Finally, the Census data refer to men who were 20 to 29 years of age in 1970, while the NLS data refer to men who were 19 to 29 years of age in 1971.

[40] The Census data are based on retrospective questions answered by whoever in the household completed the questionnaire rather than on sequential reports of occupations by the individual whose behavior is under study. Because retrospective recounting tends to understate and sequential comparisons tend to overstate mobility, the NLS data should be expected to exhibit higher rates of mobility than the Census data. Walsh and Buckholdt (1970).

Some changes and additions have been made in the human capital variables. Rather than measuring education exclusively as of the destination year, there are actually two variables: (1) education as of 1966 (EDYRS66), and (2) the additional years of schooling completed between 1966 and 1971 (ΔEDYRS66/71). Thus, while the analysis is confined to those who were nonstudents at both the 1966 and 1971 surveys, it does not exclude those who returned to school (and completed at least one additional year) during the interim. As substitutes for the set of binary variables designating recipients of various types of postschool vocational training, this model includes only two such variables. The first identifies those who had received training prior to 1966 (TRAINANY66), and the second designates those who received training between 1966 and 1971 (TRAINANY66/71). As an additional dimension of human capital, namely firm-specific skills, the number of months of service with the 1966 employer (TENR66) is included for those who did not change employers.

In order to explore the role of attitudes and motivation, two additional variables are included in the model. The first is a binary variable that identifies those whose 1966 response to a hypothetical job loss indicated a low commitment to the type of occupation they held (UNCOMIT).[41] The second, another binary variable, identifies those who in 1966 aspired to an occupation (at age 30) that (1) had higher status than the occupation held in 1966 and (2) was congruent with the 1966 education of the worker (OCCASPUP).[42] The coefficients of both of these variables are expected to have positive signs.

Regression results The empirical estimates of the parameters of the model are presented in Table 4.8 and Appendix Table 4A.4. In general, they explain between one-tenth and one-third of the variation in the probability of an upward occupational change, depending on the stratum and the variant of the dependent measure. As was found to

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[41] Among the responses treated as indicating low commitment were "return to school," "take another job in a different line of work," and "enter the Armed Forces."

[42] For a discussion of the meaning of congruence see Chapter 2 in this volume.

Table 4.8 Regression Results: The Likelihood of Upward Occupational Mobility[a] between 1966 and 1971, by Race and Comparison of 1966 and 1971 Employers

(Coefficients shown in percentage points)

(Absolute t-values in parentheses)

Explanatory variables[b]	WHITES		BLACKS[c]
	Same employer	Different employer	Different employer
EDYRS66	1.6 (0.79)	3.7 (3.24)**	3.8 (2.32)**
ΔEDYRS66/71	-3.1 (0.64)	6.0 (1.64)**	9.8 (0.89)@
TRAINANY66	-2.7 (0.40)	-0.2 (0.04)	7.5 (0.66)
TRAINANY66/71	8.5 (1.49)*	5.8 (1.43)*	8.7 (1.31)*
OCCINF	0.4 (0.80)	0.3 (0.98)	0.0^- (0.04)
VETANY71[d]	15.9 (2.55)**	-3.5 (0.81)	2.3 (0.30)
TENR66	-0.1 (0.51)	e	e
HLTHLMT66/71	-16.5 (1.60)@	8.3 (1.44)	16.7 (1.72)
PUBLIC66[d]	-20.2 (2.34)**	e	e
GEOMOB66/71	-2.6 (0.31)	4.6 (1.06)	15.9 (2.02)**
ΔEMPVOL66	e	2.8 (0.45)	21.2 (2.49)**
ΔEMPNA66	e	7.1 (1.11)	14.0 (1.66)*
OCCASPUP	4.8 (0.81)	2.4 (0.56)	-3.7 (0.54)
UNCOMIT	4.9 (0.86)	12.6 (3.13)**	8.1 (1.21)
DUNC66	-0.7 (3.84)**	-1.1 (9.30)**	-1.9 (6.63)**
Constant	19.7 (0.91)	8.5 (0.68)	10.2 (0.61)
$\bar{R}^2$	.10	.16	.20
F-ratio	3.31	9.20	5.53
Number of respondents	286	562	231
Dependent variable (mean, std. dev.)	35.2 47.8	48.5 50.0	45.6 49.9

UNIVERSE: Males 19 to 29 years of age in 1971 who were not enrolled in school in 1966 and 1971, who were employed in the 1966 and 1971 survey weeks, and whose 1966 and 1971 jobs were other than as a farmer or an unpaid family farm worker.

a Upward mobility is defined in terms of an increase in the Duncan Index score associated with the three-digit occupation.

b For a detailed description of the variables, see the text and the Glossary.

c There were too few black respondents who stayed with the same employer from 1966 through 1971 to permit analysis of the group.

d Two-tailed tests of statistical significance are applied to this variable.

e The variable does not apply to this equation.

@ Coefficient based on fewer than 25 respondents.

0^- Indicates negative nonzero value rounded to zero.

* Statistically significant at .10 level.

** Statistically significant at .05 level.

be the case in the preceding section, the results provide justification for the a priori stratifications according to race and to whether the worker changed employers during the period. Probably the most obvious difference between the internal and external labor markets is that neither education acquired prior to 1966 nor that acquired during the subsequent five years is significant determinants of advancement within a firm, whereas among those who left their 1966 employers, both schooling variables are highly significant. In addition, it is clear that there are profound, if not completely explainable, racial differences in the determinants of occupational mobility among young men who changed employers during the five-year period.

Many of the inferences that may be drawn from Table 4.8 parallel those that emanated from the analysis of occupational mobility between the first and the 1971 jobs. Rather than repeat those here, we focus on the implications that are different. Turning first to variables that were not available for the earlier analysis, there is limited evidence that attitude toward 1966 occupation is related to the probability of upward occupational mobility. Among white young men who left their 1966 employers, those who evinced a weak occupational commitment were significantly more likely to progress up the occupational ladder than were those who exhibited a strong commitment. Among black youth who changed employers and among white who remained with their 1966 employer, the coefficients of the variable (UNCOMIT) have the expected signs but fail to attain significance at conventional levels.[43]

Two additional findings from this analysis relate exclusively to the experiences of young black workers who changed employers between 1966 and 1971. First, those who made that change voluntarily were significantly more likely to move up occupationally than were those who lost their 1966 jobs. Second, the probability of being upwardly mobile was greater for geographic movers than for those who did not change areas of residence. Taken together these results provide support, at least for young black workers, that voluntary job changers are more successful in maximizing their rewards from working. Finally, the data indicate that staying in government employment during the late 1960's and early 1970's was a significant impediment to a young man's occupational progress.[44]

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[43] For blacks who changed employers, the coefficients of UNCOMIT are significant when the alternate versions of the dependent variable are used (Appendix Table 4A.4).

[44] This finding is consistent with young men starting at higher levels in the public sector and with young men in government jobs having lower career aspirations. The zero order correlation between PUBLIC66 and DUNC66 is .26 and that between PUBLIC66 and ASPUP is -.17.

Distance of occupational mobility As in the preceding section, the model designed to explain the distance of mobility is identical to that used in analyzing the probability of upward change. All in all, the results for the models on the distance of occupational mobility are quite similar to those for the probability of advancement (Table 4.9). Yet, there are some noteworthy differences. Among workers who left their 1966 employers, training appears to have a weaker effect on the distance of an occupational move than on the likelihood of its being upward. This is consistent with some recent research that has suggested that training serves as a selectivity filter as well as a means of increasing productivity.[45] Also, while the mental ability/information variable is not statistically significant in the probability model, it has a profound effect for whites in the distance model. That is, mental capacity apparently does not, net of all other factors, distinguish who moves up, but it does determine how far the movers go. Likewise, young white men with realistic upward aspirations had no better chances of advancement, but they moved farther when they did advance.

Finally, as was found in the data on lifetime movement, the occupational mobility of young black workers between 1966 and 1971 seems to have been heavily influenced by racial discrimination. While their 1966 occupational status was noticeably below that of their white counterparts (16.6 versus 28.2 index points), and while 1966 status is strongly and inversely related to advancement by 1971, black young men advanced more slowly (3.7 versus 7.3 point increase). For most characteristics, the status growth payoff was lower for blacks than for whites, so that even had they started with the same characteristics as whites, the young blacks would have gained little more than they actually did.

Returns to Occupational Mobility

Because change in prestige (status) is only one of the potential outcomes of occupational change that can be addressed with the data, the focus now turns to some measures of economic and psychological "payoffs" to mobility. The criterion measures are the relative growth in hourly wages between 1966 and 1971 and the likelihood of increased job satisfaction over the same time period. Results of these analyses are displayed in Table 4.10. The overall impression conveyed by these data is that the monetary returns to occupational mobility have yet to be captured by young white men, although there are significant positive effects on relative wage growth among the black men. Nonetheless, there is clear evidence that changes in professed job satisfaction as a result of occupational change are already manifest among young workers in both racial groups.

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[45] Adams (1974); Kalachek and Raines (1975).

Table 4.9 Regression Results: The Distance of Occupational Mobility[a] between 1966 and 1971, by Race and Comparison of 1966 and 1971 Employers

(Absolute t-values in parentheses)

Explanatory variables[b]	WHITES		BLACKS[c]
	Same employer	Different employer	Different employer
EDYRS66	0.3 (0.29)	2.1 (3.99)**	2.0 (3.39)**
ΔEDYRS66/71	-3.2 (1.60)@	5.0 (3.36)**	3.3 (0.89)@
TRAINANY66	0.9 (0.25)	2.1 (0.90)	4.2 (1.07)@
TRAINANY66/71	4.9 (1.76)**	2.6 (1.43)*	-1.6 (0.70)
OCCINF	0.6 (2.52)**	0.5 (3.57)**	0.1 (0.92)
VETANY71[d]	2.0 (0.72)	-3.4 (1.77)*	-7.2 (2.66)**
TENR66	0.0^{-} (0.19)	e	e
HLTHLMT66/71	-4.5 (0.86)@	3.4 (1.33)	8.8 (2.53)@
PUBLIC66[d]	-7.8 (1.79)@	e	e
GEOMOB66/71	-4.4 (1.23)	1.5 (0.79)	13.4 (4.76)**
ΔEMPVOL66	e	2.1 (0.72)	4.9 (1.69)**
ΔEMPNA66	e	4.0 (1.32)	7.6 (2.66)**
OCCASPUP	4.6 (1.68)**	0.2 (0.08)	-5.0 (2.14)
UNCOMIT	-1.8 (0.65)	0.2 (0.12)	2.9 (1.15)
DUNC66	-0.3 (4.02)**	-0.7 (13.90)**	-0.7 (7.13)**
Constant	-5.6 (0.57)	-19.4 (3.35)**	-17.0 (2.77)**
$\bar{R}^2$	.18	.34	.34
F-ratio	3.61	18.3	8.50
Number of respondents	158	432	191
Dependent variable (mean, std. dev.)	8.4 17.2	7.3 22.4	3.7 17.1

UNIVERSE: Males 19 to 29 years of age in 1971 who were not enrolled in school in 1966 and 1971, who were employed in the 1966 and 1971 survey weeks, whose 1966 and 1971 jobs were other than as a farmer or an unpaid family farm worker, and who changed three-digit occupations between 1966 and 1971.

a Distance is defined as the arithmetic difference between the Duncan Index scores associated with the 1966 and 1971 occupations.

b-e See footnotes b-e, Table 4.8.

@ Coefficient based on fewer than 25 respondents.

0^{-} Indicates negative nonzero value rounded to zero.

* Statistically significant at .10 level.

** Statistically significant at .05 level.

Table 4.10 Net[a] Change in Hourly Wage and Job Satisfaction, by Occupational Mobility 1966-1971, Race, and Comparison of Employers 1966-1971

Race and comparison of employers 1966-1971	Occupationally		
	Mobile upward	Immobile[c]	Mobile downward
	Mean relative increase in wage 1966-1971 (percent)		
White			
Same employer	74	74	64*
Different employer	88	103	75**
Black[b]			
Different employer	87*	70	70
	Likelihood of increased job satisfaction (percent)		
White			
Same employer	18**	5	11
Different employer	32*	26	22
Black[b]			
Different employer	48**	26	31

UNIVERSE: Males 19 to 29 years of age in 1971 who were not enrolled in school in 1966 and 1971 and who were employed, nonagricultural, wage and salary workers in the 1966 and 1971 survey weeks.

[a] The wage (satisfaction) changes are "net" in the sense that the effects of variables that determine both wage change (satisfaction change) and occupational mobility are held constant by multiple regression. The regression equations contained the following variables: DUNCUP, DUNCDWN, EDYRS66, ΔEDYRS66/71, OCCINF, HLTHLMT66/71, TRAINANY66/71, TRAINANY66, GEOMOB66/71, VETANY71 and, where applicable, ΔEMPVOL66, ΔEMPNA66, PUBLIC66, WAGE66 and SAT66. The latter two variables are included to control for the regression-toward-the-mean phenomenon.

[b] There were too few black respondents who stayed with the same employer from 1966 through 1971 to permit analysis of the group.

[c] Includes a few respondents who changed three-digit occupations without an accompanying change in occupational status--i.e., the laterally mobile.

* Significantly different from the immobile at .10 level.

** Significantly different from the immobile at .05 level.

V SUMMARY AND CONCLUSIONS

This study has focused on the changes of occupation experiences by young men in the process of establishing their careers. Drawing upon conceptualizations from economics and sociology, we have presented and tested hypotheses relating to (1) the likelihood of upward movement from career thresholds and (2) the distance moved by the occupationally mobile. In order to accomplish this, mobility was analyzed for two separate time periods and with alternative definitions of upward mobility.

To begin, we concentrated on the span between a young man's first regular job after leaving school and 1971. This span averaged about 6 years for the group under study but varied from 1 to 15 years because the men were 19 to 29 years of age in 1971 and had completed varying amounts of schooling. An empirical overview of the actual mobility of the cohort revealed a tremendous amount of occupation changing subsequent to their first jobs--e.g., more than three in five had crossed the boundary of a major occupation group during the time interval. Upward career progression was clearly evidenced by net increases in the proportions occupying high level white collar jobs and skilled craft jobs, along with a net decline in the proportion in nonfarm laborer jobs. As would be expected, gross mobility rates varied considerably according to the occupation of the initial postschool job, with professionals and technicians among the least mobile and unskilled laborers among the most mobile.

In comparison to men of their fathers' generation, young men who embarked on their work careers in the 1960's began at higher levels of occupational achievement. Illustrative of these more advantageous beginnings are the following: young whites were one-third again as likely as their fathers to have started out as professionals, technicians, or managers, and young blacks were three and one-half times as likely as their fathers to have begun as skilled craftsmen. Nevertheless, there is little evidence of secular changes in the occupational segregation of the races, and this forms one theme underlying the rest of the analysis.

The results of the multivariate analyses confirm many of the hypotheses developed in the conceptual framework. First, young men were nearly twice as likely to advance occupationally if they left their first postschool employer than if they did not, indicating the efficacy of at least some of what is often characterized as youth's milling around in the labor market. Yet the fact that only one-third of the variance in the likelihood of advancement is explained by our model strongly suggests that there is a large component of randomness in the occupational mobility of new labor market participants. Beyond this, the regression results clearly point to the interpretation that young men who obtain high level first positions by virtue of their human capital resources, job search skills, etc., are more likely to have maximized their occupational achievement and, therefore, less likely to incur the costs associated with seeking different occupations.

The regression results also indicate that, holding beginning occupation constant, a young worker's level of human capital is positively related to his probability of advancement. However, it is also apparent that internal labor markets are relatively more meritocratic and that advancement through external labor markets is relatively more dependent on credentials. Specifically, our measures of ability/information and health status have more pronounced impacts on promotability for those who remained with their first employer, while the measures of education and formal training are more strongly related to upgrading for young men who left their first employer.

The regression analyses of both the probability of occupational upgrading and the distance of such upward mobility provide strong evidence of the continued existence of racial discrimination in external labor markets.[46] Despite the facts that black youth began their careers at much lower levels of occupational status and that starting position bears a pronounced inverse relationship to the absolute size of gains, our findings show that occupationally mobile white young men progressed farther than their black counterparts. Thus, contrary to some published research extolling the 1960's as a period of growing racial economic equality in the United States, our findings indicate that youthful black workers were unable to hold their own occupationally in part because of discriminatory treatment.[47]

Narrowing the focus to occupational upgrading during the five-year period between 1966 and 1971 produces many of the same conclusions as noted above. In addition, however, these results point to a limited but noticeable net impact of attitudes and aspirations on upward mobility among young workers. Furthermore, measures identifying voluntary interfirm movers and geographic migrants were found to be statistically significant in predicting occupational advancement, giving support to the hypothesis that voluntary job changers are more successful in garnering the rewards from working. Finally, the results permit us to conclude that there are economic and psychological payoffs to young men's occupational changes that are visible even within a short period after the change. The full magnitude of such payoffs cannot be ascertained with our data, because many occupational shifts undoubtedly are undertaken with the expectation that returns will not accrue immediately.

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[46] Small sample sizes precluded replication of the analysis for internal labor markets, but there is no reason to believe that they are any more egalitarian with respect to race. See Steinberg (1975).

[47] For a study with similar conclusions, see Leigh (1975).

REFERENCES

Adams, A.V. "Earnings and Employment of Middle-Aged Men: A Special Study of Their Investment in Human Capital." In H.S. Parnes et al., The Pre-Retirement Years: Five Years in the Work Lives of Middle-Aged Men. Columbus: Center for Human Resource Research, The Ohio State University, 1975.

Aronson, R.L. Components of Occupational Change in the United States, 1950-1960. Technical Monograph Series no. 1. Ithaca: N.Y. State School of Industrial and Labor Relations, Cornell University, 1969.

Blau, P.M., and Duncan, O.D. The American Occupational Structure. New York: John Wiley and Sons, 1967.

Cassell, F.H.; Doctors, S.I.; and Director, S.M. "A Three Company Study of the Intra-Firm Mobility of Blue Collar and Lower Level White Collar Workers." Final Report to the Manpower Administration, Grant no. 92-17-71-02. Washington: U.S. Department of Labor, 1972.

Doeringer, P., and Piore, M. Internal Labor Markets and Manpower Analysis. Lexington, Massachusetts: D.C. Heath and Co., 1971.

Duncan, O.D. "A Socioeconomic Index for all Occupations." In A.J. Reiss, Jr. et al. (eds.), Occupations and Social Status. New York: The Free Press,

Duncan, O.D.; Featherman, D.L.; and Duncan, B. Socioeconomic Background and Occupational Achievement. New York: Seminar Press, 1972.

Faulkner, R.R. "Coming of Age in Organizations." Sociology of Work and Occupations 1 (1974): 131-73.

Gitelman, H.M. "Occupational Mobility Within the Firm." Industrial and Labor Relations Review 20 (October 1966): 50-65.

Hauser, R.M., and Featherman, D.L. "White-Nonwhite Differentials in Occupational Mobility Among Men in the United States, 1962-1972." Demography 11 (May 1974): 247-65.

Horowitz, A.R. "The Pattern and Causes of Changes in White-Nonwhite Income Differences: 1947-1973." In G. von Furstenberg, A.R. Horowitz, B. Harrison, eds., Patterns of Racial Discrimination. Lexington, Massachusetts: D.C. Heath, 1974.

Jackson, E.F., and Crockett, Jr., H.J. "Occupational Mobility in the United States: A Point Estimate and Trend Comparison." American Sociological Review 29 (February 1964): 5-15.

Jaffe, A.J. The Middle Years: Neither Too Young Nor Too Old. New York: Bureau of Applied Social Research, Columbia University, 1971.

Jaffe, A.J., and Carleton, R.O. *Occupational Mobility in the United States, 1930-1960*. New York: Kings Crown Press, 1954.

Kalachek, E. *The Youth Labor Market*. Washington, D.C.: Institute of Labor and Industrial Relations, The University of Michigan and Wayne State University and the National Manpower Policy Task Force, 1969.

Kalachek, E., and Raines, F. "The Structure of Wage Differences Among Mature Male Workers." Mimeographed. St. Louis, Missouri: Washington University, Department of Economics, 1975.

Kohen, A.I. "Occupational Mobility Among Middle-Aged Men." In H.S. Parnes et al., *The Pre-Retirement Years: Five Years in the Work Lives of Middle-Aged Men*. Columbus: Center for Human Resource Research, The Ohio State University, 1975.

Leigh, D.E. "Occupational Advancement in the Late 1960's: An Indirect Test of the Dual Labor Market Hypothesis." Discussion Paper 291-75. Madison: Institute for Research on Poverty, University of Wisconsin, 1975.

Masters, S.H. *Black-White Income Differentials: Empirical Studies and Policy Implications*. New York: Academic Press, 1975.

Parnes, H.S. "Labor Force Participation and Labor Mobility." In W.L. Ginzberg, et al., *A Review of Industrial Relations Research*, vol. 1. Madison: Industrial Relations Research Association, 1970, pp. 1-78.

Parnes, H.S., and Kohen, A.I. "Occupational Information and Labor Market Status: The Case of Young Men." *Journal of Human Resources* 10 (Winter 1975): 45-55.

Reynolds, L.G. *The Structure of Labor Markets*. New York: Harper and Bros., 1951.

Saben, S. *Occupational Mobility of Employed Workers*. Special Labor Force Report no. 84. Washington: U.S. Department of Labor, 1967.

Scoville, J.G. *The Job Content of the U.S. Economy 1940-1970*. New York: McGraw-Hill Book Company, 1969.

Sewell, W.H., and Hauser, R.M. *Education, Occupation, and Earnings*. New York: Academic Press, 1975.

Sorensen, A.B. *The Occupational Mobility Process: An Analysis of Occupational Careers*. Report no. 125. Baltimore: Center for Social Organization of Schools, Johns Hopkins University, 1972.

__________. "The Structure of Intragenerational Mobility." *American Sociological Review* 40 (August 1975): 456-71.

Steinberg, E. "Upward Mobility in the Internal Labor Market." Industrial Relations 14 (May 1975): 259-65.

Vroman, W. "Changes in Black Workers' Relative Earnings: Evidence from the 1960's." In G. von Furstenberg, A.R. Horowitz, B. Harrison, eds., Patterns of Racial Discrimination. Lexington, Massachusetts: D.C. Heath, 1974.

Walsh, T.C., and Buckholdt, P.J. "Accuracy of Retrospectively Reporting Work Status and Occupational Mobility Five Years Ago." Report EL5 no. 3. Washington, D.C.: Economics Statistics Branch, Population Division, U.S. Bureau of the Census, 1970.

Wise, D.A. "Personal Attributes, Job Performance and Probability of Promotion." Econometrica 43 (September/November 1975): 913-31.

CHAPTER V

DIMENSIONS OF YOUTH UNEMPLOYMENT*

I INTRODUCTION

High rates of youth unemployment have provided cause for social concern over the past 15 years. Persistently high throughout the tight labor markets of the late 1960's, the unemployment rates for youth surged even higher in the 1970's (Table 5.1). However, a lack of adequate data as well as slow theoretical and methodological progress have combined to limit the usefulness of empirical research on the composition, causes, and possible cures for youth unemployment.

A result of this scarcity of evidence is a continuing reliance on informed conjecture concerning the sources of high youth joblessness:

> Higher unemployment rates for youth are attributable to many factors, such as lack of work experience or provision of a "bridge" between school and work, inadequate entry skills and job counseling, the intermittent attachment of students to the labor force, and, in recent years, the influx of the maturing postwar "baby-boom" generation.[1]

Other factors often posited as contributing to the observed high rates of youth joblessness are increases in the legal minimum wage and the process of technological change which leads to the elimination of unskilled or entry-level positions.[2]

The need for information on youth joblessness played a material role in the decision by the Department of Labor to launch the National Longitudinal Surveys. The present study is part of a continuing program of research that attempts to respond to this need. However, as will be evident in what follows, this study is limited to only a portion of the broad range of issues outlined above, and it is important to note at the outset its scope.

Specifically, we explore several dimensions of unemployment in the young experienced labor force, using the rich body of data collected

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*This chapter was written by John T. Grasso.

[1] Hedges (1976).

[2] See Kalachek (1969).

Table 5.1 Unemployment Rates of Males 16 to 34 Years of Age, by Age and Race

(Annual averages)

Age and race	1966	1967	1968	1969	1970	1971	1975
Whites:							
16-17	12.5	12.7	12.3	12.5	15.7	17.1	19.7
18-19	8.9	9.0	8.2	7.9	12.0	13.5	17.2
20-24	4.1	4.2	4.6	4.6	7.8	9.4	13.2
25-34	2.1	1.9	1.7	1.7	3.1	4.0	6.3
Blacks:							
16-17	22.5	28.9	26.6	24.7	27.8	33.4	39.4
18-19	20.5	20.1	19.0	19.0	23.1	26.0	32.9
20-24	7.9	8.0	8.3	8.4	12.6	16.2	22.9
25-34	4.9	4.4	3.8	3.4	6.1	7.4	11.9

SOURCE: Employment and Training Report of the President, 1976, Tables A-19 and A-20.

in the 1971 survey. These data contain detailed information on the labor market transactions of the respondents throughout 1971[3] and offer several significant advantages for a study of this type. First, the information for each respondent can be organized into a chronological record of events during the year that makes it possible to analyze data on labor market events instead of respondents. For example, we can develop a sample of quits occurring during the year and investigate the relationships (a) between job tenure and quits and (b) between quits and subsequent unemployment.[4] Second, since the young men in the sample had reached 19 to 29 years of age by the time of the 1971 survey, the data span the age range in which cross-sectional rates of unemployment drop substantially and approach the relatively low rates of prime-age males. We are thus able to focus on this important stage of the life cycle,[5] and during a year in which unemployment rates were relatively high.[6] Third, the richness of the data allows us to identify students as well as recent labor market entrants and reentrants. Thus, we can confine the study to those spells of unemployment that follow separations from jobs by young men not enrolled in regular school.[7]

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[3] Actually, the majority of the 1971 NLS interviews were conducted between October and December of 1971, and only a few were not completed until after the beginning of 1972. In these interviews, information was collected for the period since the previous NLS survey date, which, on the average, was a period of one year. Nevertheless, for the sake of convenience, we refer to these data as describing "calendar year 1971."

[4] We can identify every quit, the job tenure at the time of each quit, and the unemployment that accompanied each quit. Moreover, the data contain information on time spent not working which occurs between two jobs, as well as on time spent not working which occurs "within" a job (e.g., a layoff from which the worker was recalled). As will be shown below, we make use of all this information.

The plan of the study is as follows. Since the periods of unemployment considered in this study follow a job separation, we begin by defining three major categories of job separations and by analyzing data on the incidence of each. Next, we explore data on the incidence and duration of unemployment associated with each type of job separation. Finally, the study concludes with a discussion of the implications of our work.

II JOB SEPARATIONS

Examining the phenomenon of unemployment in the context of job separations is not without precedent. Hall's work presents definitional relationships between various kinds of turnover and frictional and other types of unemployment.[8] Also, Mattila estimates that at least half of all voluntary quits (other than quits to leave the labor force) are made after the workers have lined up other jobs.[9] In addition, Parsons' review of the literature on job turnover demonstrates the interrelatedness of the concepts;[10] and the Bureau of Labor Statistics takes care to report separately data on kinds of turnover and on the incidence and duration of unemployment.[11]

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[5] This also means that unemployment among teenagers is not addressed in this study. Unfortunately, the collection of detailed information on work during the year and of data on the reasons for leaving jobs--an important part of the study--was less complete in the earliest NLS interviews, when there were many teenagers in the sample, than in the 1970 and 1971 interviews when the sample contained the fewest teenagers.

[6] The year 1971 contained the highest rates of youth unemployment of any year for which NLS data are available; see Table 5.1 above.

[7] As will be shown below, our approach to the study of youth unemployment begins with attention to the nature of job separations. We devote only passing attention to questions concerning current and recent students. Thus, since students and returning veterans constitute the bulk of new male entrants and reentrants to the labor force, and since veterans are the subject of a separate chapter in this report, the focus of this chapter is unemployment among young job leavers and job losers.

[8] Hall (1972).

As a point of departure it is useful to review commonly used categories of job separations. As Hall points out, it is important to distinguish ". . . between the role of events outside the control of the individual and the role of his response to his economic environment."[12] From this point of view, it is tempting to try to distinguish between "involuntary" and "voluntary" separations (Table 5.2).

Table 5.2 Examples of "Voluntary" and "Involuntary" Job Separations

"Involuntary"	"Voluntary"
Temporary or indefinite layoff Plant closing End of temporary job Discharge	Quit because disliked hours (or work, working conditions, wages, location, community) Quit, no chance for advancement Quit, interpersonal relations Quit, health or disability Quit, interfered with school

SOURCE: See Gilroy (1973).

Unfortunately, this grouping of reasons for leaving a firm is not a completely faithful reflection of Hall's distinction. For example, when a worker quits because of physical disability, he may not be acting at the same level of volition as when he quits for the other "voluntary" reasons cited. Similarly, the end of a "temporary" job is not unambiguously "involuntary," particularly if the position was originally accepted with full knowledge of its temporary duration. As will be seen below, our study of factors related to unemployment--particularly to the extent that such unemployment may arise through uninformed or capricious behavior on the part of young workers--requires a careful demarcation among various kinds of job separations. We distribute job separations into three categories, as described below.

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[9] Mattila (1974).

[10] Parsons (1975).

[11] For some examples, see Gilroy (1973) and Hoyle (1967).

[12] Hall (1972), p. 709.

The first major category of job separations that we define is intended to capture one extreme of the voluntary-involuntary continuum: namely, those separations involving little or no volition on the part of the worker. Logically, this group would encompass job separations due to discharge, layoff, and plant closing.[13] Contrary to past practice, we would also include: separations due to health problems or to disability, those occasioned by the closing of one's own business,[14] and those which coincide with institutionalization or induction into the armed forces. Henceforth, we use the term low volition separations to describe such job shifts.

At the other extreme, there are those types of separations involving some substantial component of worker volition and little if any risk of joblessness. These are cases in which a worker leaves a job because he has found a more attractive one (e.g., "found better job," "quit for higher pay," "quit to take a job with greater potential for advancement," and "to open my own business").[15] The notable aspect of the job separations included here is that the worker has already lined up a new position in advance of voluntarily leaving the old one, which virtually eliminates the risk of joblessness. Its purposeful nature and secure character are the principal features distinguishing this category of job separation.

Our third category of job separations includes all the remaining types and thus lies somewhere between the first two major categories.

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[13] Of course, the possibility must be acknowledged that such separations may have been "voluntary" in that the worker may have consciously prompted the discharge, or volunteered for the layoff, or rejected the opportunity to relocate to another plant.

[14] Here we are referring to the case of closing a failing business; however, the NLS data do not contain direct evidence on whether the business was indeed failing.

[15] Other types of separations which might be conceived as involving a high degree of volition on the part of the worker include those associated with schooling (e.g., "quit previous job upon graduation," "quit job because of schooling"), but these types are outside the scope of the present study.

Included are those which might be characterized as capricious actions--that is, those which are unplanned and involve the risk of joblessness at the departure. Also included are those which are voluntary or involuntary depending on point of view--for example, when a worker quits due to "interpersonal relationships," he might nonetheless characterize this as an "involuntary" quit. Finally, this residual category also includes separations in which the worker may have unsuccessfully sought another job in advance of voluntarily leaving his job, or may have desired to look for new work but was unable to do so (e.g., because his work hours coincided with the times of day during which he would need to look). In any event, the distinguishing feature of this more heterogeneous (and ambiguous) category of job separations is that the worker has not lined up a new job in advance of his leaving. These quits clearly involve the risk of joblessness and, on average, are probably not so completely premeditated as are the quits with prearranged jobs described above.

The three categories of job separations that have been defined are summarized in Table 5.3. Before proceeding further, it is useful to examine data on job separations according to these categories, and the relationships between the types and some worker characteristics, using detailed information from the 1971 survey of young men.[16] The data indicate that slightly more than 1 percent of weeks at work contain a job separation: 1.1 percent among whites and 1.4 percent among blacks (lines 1 and 6, Table 5.4). In addition, the likelihood of any given type of job separation is almost always higher for blacks than for whites. Also, as might be expected, the data reveal inverse relationships between the incidence of job separations on the one hand and schooling, tenure, work experience, and being married, on the other. However, casual observation suggests that these patterns are also less regular for blacks than for whites.

Of the several personal characteristics considered, the relationships observed between tenure and job separations appear to be the most consistently monotonic. A strong relation would be expected for several reasons. Previous research based on the theory of human capital supports the hypothesis of an inverse relationship between tenure, conceived

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[16] Of course, to be able to proceed with complete confidence with the scheme by which job separations have been categorized above, it would be necessary to have ideal data. To utilize the NLS data for this analysis, it is necessary to assume the objective validity of respondents' answers to the survey questions. Moreover, since the respondents' actual verbal responses to questions about reasons for leaving employers have been precoded into somewhat ambiguous, preselected categories, it must be assumed that our combinations of these categories (shown in Table 5.3) and operational definitions (described in Appendix Table 5A.1) faithfully reflect the intended distinctions described above.

Table 5.3 Categories of Job Separations

- Low volition[a]
  - Layoff
  - Plant closing
  - End of temporary job
  - Discharge
  - Health or physical disability
  - Closing own business
  - Institutionalization[b]
  - Induction[b]
- Voluntary, without prearranged job[a]
  - Interpersonal relations
  - Disliked the work
  - Disliked hours or working conditions
  - Personal or family reasons
  - Location or community considerations
  - Low wages
  - Lack of advancement opportunities
- Voluntary, with prearranged job[a]
  - Found better job
  - Better wages
  - Open own business
  - Coincident with leaving school[b]
  - Interfered with school[b]

[a] See text for definitions; see Appendix Table 5A.1 for operational definitions.

[b] This type is excluded in the empirical work of this study.

Table 5.4 Incidence of Job Separation, by Type[a] of Separation, Selected Personal Characteristics, and Race

Personal characteristics	Total weeks at work	Job separations		Low volition[a]		Voluntary, no prearranged job[a]		Voluntary with prearranged job[a]	
		Number	Percent[b]	Number	Percent[b]	Number	Percent[b]	Number	Percent[b]
Schooling									
Whites:	95,972	1,148	1.1	441	0.4	300	0.3	317	0.3
H.S. dropouts	21,303	343	1.6	138	0.6	104	0.5	83	0.4
H.S. graduates	44,018	495	1.1	191	0.4	116	0.3	145	0.3
Some college	16,753	194	1.1	73	0.4	48	0.3	53	0.3
College graduates	13,898	116	0.8	39	0.3	32	0.2	36	0.3
Blacks:	32,640	494	1.4	211	0.6	148	0.5	91	0.3
H.S. dropouts	16,320	268	1.6	120	0.7	74	0.5	46	0.4
H.S. graduates	12,885	186	1.2	79	0.5	58	0.4	36	0.3
Some college	2,153	29	1.6	9	0.6	15	0.9	4	0.2
College graduates	1,282	11	0.8	3	0.2	1	0.1	5	0.4
Tenure									
Whites:	95,972	1,148	1.1	441	0.4	300	0.3	317	0.3
Less than 6 mo.	25,272	720	2.7	282	1.1	195	0.8	175	0.7
6-12 mo.	17,218	231	1.3	88	0.5	59	0.3	68	0.4
13-18 mo.	9,677	66	0.7	29	0.3	18	0.2	18	0.2
2 yrs.	13,872	63	0.5	21	0.1	12	0.1	30	0.2
3 or 4 yrs.	15,154	44	0.3	13	0.1	11	0.1	17	0.1
5 yrs. or more	14,779	24	0.2	8	0.1	5	0.0+	9	0.1
Blacks:	32,640	494	1.4	211	0.6	148	0.5	91	0.3
Less than 6 mo.	9,512	311	3.0	126	1.1	94	1.0	58	0.7
6-12 mo.	6,668	99	1.6	42	0.7	30	0.5	20	0.4
13-18 mo.	4,168	34	0.7	15	0.3	11	0.4	6	0.1
2 yrs.	4,487	25	0.5	14	0.3	8	0.1	2	0.0+
3 or 4 yrs.	4,731	16	0.3	10	0.2	3	0.0+	3	0.1
5 yrs. or more	3,074	9	0.2	4	0.1	2	0.1	2	0.1
Work experience									
Whites:	95,972	1,148	1.1	441	0.4	300	0.3	317	0.3
Under 6 mo.	5,427	120	2.0	37	0.6	32	0.6	36	0.6
6-12 mo.	6,563	118	1.7	39	0.5	34	0.5	33	0.5
13-18 mo.	5,617	67	1.1	25	0.4	16	0.2	20	0.4
2 yrs.	10,686	126	1.1	43	0.4	37	0.4	34	0.3
3 or 4 yrs.	22,639	273	1.1	111	0.5	81	0.3	64	0.3
5 yrs. or more	45,040	444	1.0	186	0.4	100	0.2	130	0.3
Blacks:	32,640	494	1.4	211	0.6	148	0.5	91	0.3
Under 6 mo.	1,419	43	2.5	19	0.9	10	0.7	8	0.7
6-12 mo.	1,359	33	2.6	15	0.7	7	0.6	10	0.2
13-18 mo.	1,372	25	2.1	12	0.9	7	0.8	3	0.2
2 yrs.	3,464	58	2.2	26	1.1	20	0.7	10	0.4
3 or 4 yrs.	7,368	131	1.6	47	0.6	48	0.6	25	0.4
5 yrs. or more	17,658	204	1.0	92	0.4	56	0.3	35	0.2
Marital status									
Whites:	95,972	1,148	1.1	441	0.4	300	0.3	317	0.3
Married	66,095	615	0.9	240	0.4	134	0.2	208	0.3
Not married	29,877	505	1.7	201	0.7	166	0.6	104	0.3
Never married	25,844	428	1.6	170	0.7	141	0.6	89	0.3
Other	4,033	77	1.8	31	0.8	25	0.6	15	0.3
Blacks:	32,640	494	1.4	211	0.6	148	0.5	91	0.3
Married	16,980	202	1.2	88	0.6	58	0.3	45	0.3
Not married	15,660	274	1.8	123	0.7	90	0.6	45	0.4
Never married	13,252	239	1.8	110	0.7	75	0.6	39	0.4
Other	2,408	35	1.5	13	0.4	15	0.7	6	0.3

(Table continued on next page.)

Table 5.4 Continued

UNIVERSE: Weeks of work during 1971 by young men 19 to 29 years of age, excluding data for students and labor market entrants and reentrants.

[a] See text for definitions of types of separations; see Appendix Table 5A.1 for the procedure used to develop operational measures.

[b] Entries in the columns labelled "Percent" are based on weighted data and are the percent of weeks begun working that ended with a job separation of the type indicated. For further detail, refer to Appendix Table 5A.2.

0+ Indicates nonzero value rounded to zero.

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as representing specific training, and both quits and layoffs.[17] In addition, tenure is associated both with higher wages, which might be expected to reduce voluntary mobility, and with greater job security, which could reduce the likelihood of both voluntary and involuntary movement. Also, jobs may be regarded as "experience goods," which would imply that, because both workers and firms obtain information with the passage of time, the separation of a worker with little tenure is more likely than that of a worker with longer service.[18] Finally, if there are personal characteristics (e.g., psychological attributes) that are related to a greater-than-average likelihood of worker instability, then the observed association between tenure and separations would reflect this underlying relationship. For these reasons, we briefly examine the likelihood of each type of separation cross-classified by tenure, race, and each of the remaining personal characteristics in turn (Tables 5.5-5.7).

For nearly every level of tenure, the probability of a low volition separation is inversely related to schooling and to being married, but there is no such association with the length of overall work experience (Table 5.5). Turning to the voluntary moves in which a new job had not been prearranged (Table 5.6), we again find an inverse relationship to being married, and, for whites, to the level of schooling. Length of work experience bears no consistent relationship to this type of separation either. Finally, the probability of a voluntary separation in which a new job was arranged beforehand bears no discernible association with the personal characteristics (Table 5.7).

In the preceding we have examined in brief the likelihood that a week begun in employment contains a job separation of each of the three major types.[19] In order to explore further, the incidence of voluntary

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[17] See Parsons (1972).

[18] Nelson (1970) considers the case of those types of consumer goods about which it is difficult to obtain useful information before purchasing. The point of his discussion which is relevant here is that, because of incomplete information, workers may find it difficult to develop rankings for a set of job opportunities, and this is similar to the consumer's problem. In such cases, one can surmise that one must "try it" to discover whether one "likes it."

[19] We also performed in preliminary, exploratory work, a series of multiple regressions relating the probability of each major type of separation to a series of explanatory variables. We recognized several possible pitfalls in doing so. Although the literature contains instances of the use of multiple (OLS) regression where the criterion measure is dichotomous, they generally include a discussion of

Table 5.5 Probability of Low Volition Separation, by Tenure, Selected Personal Characteristics and Race

(Percentage points)[a]

Personal characteristics	Tenure						
	Total or average	Less than 6 mo.	6-12 mo.	13-18 mo.	2 yrs.	3-4 yrs.	5 or more
Schooling							
Whites:	0.44	1.08	0.49	0.30	0.14	0.08	0.07
H. S. dropouts	0.64	1.53	0.71	0.43	0.22	0.11	0.14
H. S. graduates	0.43	1.08	0.50	0.29	0.18	0.12	0.06
Some college	0.41	0.93	0.43	0.30	0.13	0.00^+	0.00^+
College graduates	0.26	0.67	0.27	0.14	0.00^+	0.03	0.00^+
Blacks:	0.57	1.12	0.65	0.27	0.34	0.18	0.11
H. S. dropouts	0.69	1.34	0.89	0.34	0.50	0.28	0.09
H. S. graduates	0.48	1.15	0.38	0.21	0.26	0.10	0.15
Some college	0.55	0.61	1.21	0.33	0.14	0.00^+	0.00^+
College graduates	0.20	0.17	0.44	0.00^+	0.00^+	0.00^+	0.00^+
Marital status							
Whites:	0.44	1.08	0.49	0.30	0.14	0.08	0.07
Married	0.35	0.93	0.44	0.32	0.13	0.07	0.07
Never married	0.65	1.25	0.52	0.26	0.16	0.08	0.00^+
Other	0.74	1.47	0.90	0.06	0.24	0.16	0.47
Blacks:	0.57	1.12	0.65	0.27	0.34	0.18	0.11
Married	0.51	1.01	0.73	0.32	0.36	0.10	0.13
Never married	0.71	1.29	0.61	0.17	0.36	0.36	0.00^+
Other	0.40	0.82	0.22	0.59	0.00^+	0.24	0.19
Work experience							
Whites:	0.44	1.08	0.49	0.30	0.14	0.08	0.07
Less than 6 mo.	0.63	0.63	--	--	--	--	--
6-12 mo.	0.53	1.02	0.27	--	--	--	--
13-18 mo.	0.41	1.19	0.16	0.11	--	--	--
2 yrs.	0.37	0.71	0.58	0.38	0.10	--	--
3 or 4 yrs.	0.48	1.31	0.61	0.29	0.18	0.05	--
5 yrs. or more	0.41	1.34	0.63	0.38	0.14	0.10	0.07
Blacks:	0.57	1.12	0.65	0.27	0.34	0.18	0.11
Less than 6 mo.	0.89	0.89	--	--	--	--	--
6-12 mo.	0.69	1.06	0.45	--	--	--	--
13-18 mo.	0.86	1.02	1.14	0.45	--	--	--
2 yrs.	1.08	1.47	1.16	0.59	0.58	--	--
3 or 4 yrs.	0.60	1.26	0.32	0.35	0.33	0.31	--
5 yrs. or more	0.43	1.04	0.67	0.15	0.28	0.13	0.11

UNIVERSE: See Table 5.4

[a] Percentages are based on weighted data and are the percent of weeks begun working that ended with a job separation of the type indicated.

0^+ Indicates nonzero value rounded to zero.

Table 5.6 Probability of Voluntary Separation without Prearranged Job, by Tenure, Selected Personal Characteristics and Race

(Percentage points)[a]

Personal characteristics	Tenure						
	Total or average	Less than 6 mo.	6-12 mo.	13-18 mo.	2 yrs.	3-4 yrs.	5 yrs. or more
Schooling							
Whites:	0.31	0.76	0.35	0.19	0.10	0.07	0.02
H.S. dropouts	0.48	1.13	0.61	0.32	0.10	0.12	0.04
H.S. graduates	0.26	0.69	0.29	0.12	0.13	0.05	0.02
Some college	0.31	0.67	0.35	0.24	0.04	0.08	0.00+
College graduates	0.22	0.52	0.19	0.15	0.09	0.04	0.00+
Blacks:	0.47	1.00	0.54	0.37	0.14	0.04	0.05
H.S. dropouts	0.47	1.01	0.71	0.24	0.13	0.05	0.06
H.S. graduates	0.44	1.11	0.28	0.45	0.10	0.04	0.05
Some college	0.86	1.05	1.61	0.76	0.22	0.00+	0.00+
College graduates	0.07	0.00+	0.00+	0.00+	0.58	0.00+	0.00+
Marital status							
Whites:	0.31	0.76	0.35	0.19	0.10	0.07	0.02
Married	0.20	0.53	0.30	0.19	0.08	0.04	0.01
Never married	0.55	1.05	0.42	0.17	0.14	0.19	0.09
Other	0.57	1.20	0.50	0.29	0.22	0.15	0.09
Blacks:	0.47	1.00	0.54	0.37	0.14	0.04	0.05
Married	0.34	0.77	0.38	0.45	0.19	0.02	0.05
Never married	0.60	1.16	0.68	0.03	0.10	0.13	0.09
Other	0.73	1.23	1.14	2.85	0.00+	0.00+	0.00+
Work experience							
Whites:	0.31	0.76	0.35	0.19	0.10	0.07	0.02
Less than 6 mo.	0.60	0.60	-	-	-	-	-
6-12 mo.	0.51	0.78	0.36	-	-	-	-
13-18 mo.	0.23	0.54	0.18	0.07	-	-	-
2 yrs.	0.36	1.01	0.34	0.15	0.10	-	-
3 or 4 yrs.	0.33	0.87	0.33	0.23	0.13	0.09	-
5 yrs. or more	0.23	0.74	0.39	0.25	0.07	0.05	0.02
Blacks:	0.47	1.00	0.54	0.37	0.14	0.04	0.05
Less than 6 mo.	0.72	0.72	-	-	-	-	-
6-12 mo.	0.65	1.33	0.19	-	-	-	-
13-18 mo.	0.76	2.09	0.37	0.00+	-	-	-
2 yrs.	0.69	0.99	0.61	0.91	0.08	-	-
3 or 4 yrs.	0.64	1.25	0.75	0.41	0.15	0.12	-
5 yrs. or more	0.33	0.82	0.54	0.32	0.16	0.02	0.05

UNIVERSE: See Table 5.4

[a] See Table 5.5, footnote a.

0+ Indicates nonzero value rounded to zero.

Table 5.7 Probability of a Voluntary Separation with Prearranged Job, by Tenure, Selected Personal Characteristics and Race

(Percentage points)[a]

Personal characteristics	Tenure						
	Total or average	Less than 6 mo.	6-12 mo.	13-18 mo.	2 yrs.	3-4 yrs.	5 yrs. or more
__Schooling__							
Whites:	0.32	0.68	0.35	0.18	0.22	0.11	0.08
H.S. dropouts	0.38	0.75	0.40	0.21	0.39	0.11	0.12
H.S. graduates	0.33	0.78	0.36	0.22	0.26	0.04	0.07
Some college	0.30	0.61	0.39	0.06	0.13	0.12	0.00^{+}
College graduates	0.25	0.44	0.21	0.20	0.08	0.25	0.15
Blacks:	0.32	0.73	0.39	0.10	0.03	0.08	0.06
H.S. dropouts	0.39	0.97	0.47	0.11	0.03	0.03	0.09
H.S. graduates	0.26	0.54	0.32	0.11	0.03	0.16	0.00^{+}
Some college	0.18	0.53	0.00^{+}	0.00^{+}	0.00^{+}	0.00^{+}	0.00^{+}
College graduates	0.43	0.48	0.85	0.00^{+}	0.00^{+}	0.00^{+}	--
__Marital status__							
Whites:	0.32	0.68	0.35	0.18	0.22	0.11	0.08
Married	0.32	0.76	0.36	0.21	0.26	0.11	0.08
Never married	0.33	0.57	0.29	0.12	0.14	0.13	0.07
Other	0.34	0.61	0.73	0.08	0.04	0.00^{+}	0.00^{+}
Blacks:	0.32	0.73	0.39	0.10	0.03	0.08	0.06
Married	0.26	0.64	0.33	0.09	0.02	0.11	0.08
Never married	0.41	0.78	0.49	0.12	0.04	0.05	0.00^{+}
Other	0.31	0.84	0.34	0.00^{+}	0.00^{+}	0.00^{+}	0.00^{+}
__Work experience__							
Whites:	0.32	0.68	0.35	0.18	0.22	0.11	0.08
Less than 6 mo.	0.63	0.63	--	--	--	--	--
6-12 mo.	0.46	0.75	0.31	--	--	--	--
13-18 mo.	0.36	0.96	0.20	0.08	--	--	--
2 yrs.	0.31	0.55	0.27	0.30	0.20	--	--
3 or 4 yrs.	0.27	0.57	0.30	0.16	0.25	0.10	--
5 yrs. or more	0.28	0.76	0.47	0.21	0.22	0.12	0.08
Blacks:	0.32	0.73	0.39	0.10	0.03	0.08	0.06
Less than 6 mo.	0.66	0.66	--	--	--	--	--
6-12 mo.	1.22	1.34	1.14	--	--	--	--
13-18 mo.	0.22	0.55	0.00^{+}	0.17	--	--	--
2 yrs.	0.39	0.51	0.55	0.15	0.16	--	--
3 or 4 yrs.	0.36	0.92	0.29	0.16	0.00^{+}	0.00^{+}	--
5 yrs. or more	0.21	0.65	0.26	0.05	0.00^{+}	0.11	0.06

UNIVERSE: See Table 5.4.

[a] See Table 5.5, footnote a.

0^{+} Indicates nonzero value rounded to zero.

separations, we now examine the likelihood that a quit was preceded by prearranging a new job.

Influenced in general by the literature pertaining to job search behavior,[20] we hypothesize that the likelihood that a new job was lined up in advance of a quit is related to certain worker and area characteristics. Specifically, we hypothesize positive relationships with levels of schooling, training and work experience, and with being married and having dependents and a negative association with the existence of health problems. Also, we hypothesize that, all other factors equal, the likelihood of lining up a new job beforehand is directly related to the level of wages on the job left. Finally, we hypothesize a positive association with living in an urban area, and a negative association with the level of local unemployment. The following equation summarizes these hypotheses.

$$\text{(5.1)}\quad \text{Probability of a New Job Lined Up, given a Voluntary Separation} = f_1\,(\underset{(+)}{\text{Human capital}},\ \underset{(+)}{\text{Wage}},\ \underset{(+)}{\text{Married}},\ \underset{(+)}{\text{Dependents}},\ \underset{(-)}{\text{Health}},\ \underset{(-)}{\text{Local unemployment rate}},\ \underset{(+)}{\text{In SMSA}}).$$

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improprieties of using this technique with such a dependent variable (e.g., Bowen and Finegan, 1969, Appendix A).

Recognizing this, we would have preferred to make use of more appropriate techniques (e.g., probit or logit analysis); but a computer program capable of handling weighted data was unavailable to us. Also, experimentation with other (unweighted) data revealed that OLS regression yields results that do approximate those from other techniques, as long as the mean value of the criterion measure is around one-half (i.e., betweem .30 and .70). Unfortunately, the means of our dependent variables are less than .01, which suggests that OLS results should be regarded with suspicion. In light of all this, we were surprised to discover that the frequency distributions presented in Tables 5.5 to 5.7 above were consistent with the results of regressions, both in direction (i.e., comparing the pattern of increasing or decreasing values in the table to the sign of the estimated regression coefficient) and in significance (i.e., comparing whether any pattern of increasing or decreasing values can be discerned to the t-value for the regression coefficient). For this reason, some of these regressions are presented in Appendix Table 5A.3.

[20] For reviews of theory relating to the economics of job search, see Kohn and Shavell (1974), Lippman and McCall (1976), and Parsons (1975).

Table 5.8 Regression Results for the Probability that a New Job is Lined Up in Advance of a Voluntary Separation, by Race

(Coefficients shown in percentage points)

(Absolute t-values in parentheses)

Explanatory variables	WHITES		BLACKS	
LOCALUNRATEt[a]	-2.3**	(2.22)	-0.1	(0.04)
SMSAt	-3.8	(0.80)	-17.4**	(2.03)
WAGEt	1.6	(0.89)	-0.4	(0.08)
MARRIED71	17.1**	(3.53)	11.9*	(1.42)
DEPENDTS71	5.0**	(2.10)	-1.9	(0.68)
ED:EL71	-19.5**	(3.46)	5.8	(0.68)
ED:HS71	(omitted group)		(omitted group)	
ED:≤BA71	-4.4	(0.73)	-19.1	(1.46)
ED:BA+71	-0.2	(0.02)	33.0*	(1.48)
TRAINANY71	3.0	(0.63)	-9.5	(1.04)
EXPERt	0.03	(0.45)	-0.22	(2.27)
TENRt	0.15	(1.05)	0.13	(0.38)
MILDURTOT71	-0.02	(0.12)	-0.02	(0.04)
HEALTH71	-10.6*	(1.40)	-21.5**	(1.88)
Constant	59.3	(7.30)	68.9	(4.58)
$\bar{R}^2$	.09		.09	
F-ratio	4.92		2.50	
Number of observations	505		202	
Dependent variable (mean, std. dev.)	59.8 49.1		43.9 49.8	

UNIVERSE: Voluntary separations with or without a prearranged job, except separations to depart from the labor force.

a The suffix "t" denotes that a variable is measured at the time of the job separation, rather than at the NLS interview date.

* Statistically significant at .10 level.

** Statistically significant at .05 level.

The results for this equation support only a few of our hypotheses (Table 5.8). First, young married men are indeed more likely than others to have lined up new jobs in advance of voluntary separations. Second, among young white men at least, additional dependents apparently provide incentives to prearrange jobs. Third, among both whites and blacks, the incidence of work-limiting health problems is related inversely to arranging a new job before leaving an old one. Thus, problems with health evidently inhibit successful advance search, even when health is not the principal reason for leaving the firm.[21]

The results also suggest the presence of a mild association with the level of schooling, for whites with less than a high school diploma are less likely than those with more schooling to prearrange jobs, while blacks with college degrees are more likely than those with less schooling to do so. On the other hand, a number of variables exhibit no association with lining up new jobs before quits. These include the measures of postschool training, experience and the wage on the job from which the worker departed.

III INCIDENCE AND DURATION OF UNEMPLOYMENT

We have devoted attention in the preceding section to types of job separations and their incidence. Since not all job separations are accompanied by unemployment, we now review several more-or-less definitional, but less than obvious, aspects of the association of unemployment with the various kinds of separations. Logically, the possibility of experiencing at least one full week of unemployment depends to a large extent on the type of separation from the prior employer. At one extreme, workers who have been laid off are classified as unemployed (provided, of course, that they do not immediately obtain alternate temporary or permanent employment, or leave the labor force). At the other extreme are workers who reported "quit because found better job" and who are likely to register no weeks of unemployment because a new job was already lined up.

The various possibilities which are relevant to this study have been organized in Table 5.9, using the NLS data to show the experience of workers subsequent to each type of job separation. Consistent with

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As these reviews point out, existing formulations of models of search behavior involve many simplifying assumptions, making it difficult to devise adequate empirical tests. In any event we would not suggest that the analysis described in the text is an empirical test of this body of theory.

[21] Recall that cases where "health or disability" is provided as the reason for leaving the firm are classified as low volition separations, which are excluded from the analysis of equation 5.1.

the conceptualization and operational definitions used in this study, several cells in the table are empty sets: namely, those marked (b) through (g). These cases and several related ones are worthy of review.

One special group is comprised of all those who had lined up a new job in advance of leaving their previous job (column 2 in Table 5.9). Most of these cases are *quits* in which the new job was prearranged (n = 402), but it is notable that there are also cases of *involuntary* separations in which a new job was prearranged (n = 94).[22] It is interesting that the BLS takes no account of the nature of the job separation in classifying the labor force and employment status of workers waiting to start a new job; rather, workers are counted as unemployed or out of the labor force according to whether the new job is to begin within 30 days. From one perspective, *all* cases in which a new job has been located in advance of a separation may be thought of as cases of no unemployment--i.e., the individuals may be construed to be "with a job, but not at work." From another perspective, when a *voluntary* separation is made to take a job that does not begin immediately, the intervening period may legitimately be construed to be a period out of the labor force. In this study we deal with the problem in the following way. *All* cases of separations with a new job lined up in advance are treated as cases of no unemployment.[23]

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[22] In one study using data on unemployment by reason, it was said that ". . . the 'true' unemployment rate for job losers would be the number of job losers divided by the job-loser labor force . . . but the job-loser labor force does not exist; it has no meaning" (Gilroy, 1973, p. 15, n. 5). However, as can be seen in Table 5.9, the information available in the NLS can in fact be used to compute the proportion of low volition separations that result in one or more weeks of unemployment (excluding from the denominator those low volition separations in which the worker leaves the labor force). This is indeed analogous to an unemployment rate for job losers.

[23] Because of this peculiarity and other instances in which unique definitions are applied, the results of our analyses are not directly comparable to those of other research. This is unfortunate, particularly in view of the large number of studies of unemployment devoting substantial attention to methodological issues. One example is the set of studies with various methodological techniques for estimating the duration of completed spells of unemployment based on information on employment status and on the length of joblessness to date from the monthly Current Population Survey. See, for example, Garfinkle (undated) and Kaitz (1970). Another is the set of studies with various techniques for estimating the probability of being or of becoming unemployed during a week from data for the number of spells and the total weeks of joblessness during a year (e.g., Barrett and Morgenstern, 1974; Hall, 1972). Conceivably, the information available in the detailed work histories collected in the NLS can be used to answer a large number

Table 5.9 Types of Job Separations and Subsequent Experience

Type of job separation	All job separations	New job lined up	Did not have new job lined up				
			Remained in labor force				Left labor force[i]
			Total	Zero weeks of unemployment	One or more weeks of unemployment		
					Duration known	Duration NA[a]	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Total job separations	1,596	496	886	218	486	182	214
Low volition	652	94	535	118	294	123	23
Layoff, plant closing, end of temporary job	520	71	449	85	253	111	0
(laid off and recalled)[h]	(72)	(0)	(72)	(0)	(69)	(3)	(0)
Discharged	43	2	38	15	20	3	3
Quit because of health or disability	47	0	31	11	15	5	16
Closed own business	42	21	17	7	6	4	4
Voluntary, without prearranged job	448	b	341	100	182	59	107
Quit because disliked hours, work or conditions	245	b	209	78	105	26	36
Quit for personal or family reasons	104	b	45	6	29	10	59
Quit because of location or community	38	b	30	6	18	6	8
Quit because of "low pay"	61	b	57	10	30	17	4
Voluntary, with prearranged job	402	402	c	d	e	f	g
Quit because found better job	290	290	c	d	e	f	g
Quit because found better wages	77	77	c	d	e	f	g
Open own business	35	35	c	d	e	f	g
Not ascertained	94	0	10	0	10	0	84

UNIVERSE: Job separations by young men 19 to 29 years of age in 1971; see Appendix Table 5A.2 for more details.

NOTE: The numbers in this table are presented solely to illustrate the relation in question. They are not based on weighted data and must not be interpreted as estimates for the population.

a "NA" denotes either that the number of weeks unemployed was not ascertained or that the spell was not complete by the time of the 1971 survey week.

b, c, d, e, f, g denote cells which contain empty sets by definition used here.

h Actually, it was not possible to identify directly those workers recalled from layoff. The figures shown here are created by applying an arbitrary definition. Recalls are defined for the purposes of this study as those in which a worker (a) had a response to the reason for leaving an employer that was pre-coded into the category designating "layoff, plant closing or end of temporary job"; (b) had one or more weeks of unemployment associated with the separation in question; (c) did not work for any other employer prior to returning to the employer from whom the worker departed.

i Actually, it was not possible to identify those who left the labor force immediately, except by applying an arbitrary definition. For example, in some cases the available information indicated that (a) there was a period of nonwork between two jobs; (b) a portion of this period was spent "looking for work"; and (c) the remaining portion of the period was spent outside the labor force. In such cases it was not possible to date precisely the search activity. It was assumed in these cases that the period looking for work occurred after the period out of the labor force; hence, such cases are included in the column titled "Left labor force."

However, in the analysis of the incidence and duration of unemployment, we alternately include and exclude from consideration those voluntary separations in which the worker had lined up a new job in advance.

A second special group consists of those who left the labor force directly (column 7, Table 5.9). Separate analysis reveals that the majority of these cases cited personal or family reasons either for leaving or for remaining outside the labor force. Logically, this group registers no unemployment, and we exclude it from the following analysis of the probability and duration of unemployment.[24]

A third group of interest consists of those with different employers in consecutive weeks who indicated that they had not lined up the new job in advance of the separation (column 4, Table 5.9). Under BLS definitions, these separations involved no unemployment, because no full calendar week of unemployment occurred. We treat these cases in similar fashion, even while recognizing that up to 12 full days of joblessness may have actually been experienced.

Bearing in mind the foregoing relationships between the various types of job separations and subsequent experience, we now analyze the incidence and duration of unemployment in the context of job search. For all types of job separation we exclude cases in which the worker left the labor force. With respect to quits in which a new job was lined up in advance, the analysis is first performed including such cases and is then repeated, excluding them. It is hypothesized that unemployment is related inversely to the level of human capital, to being married and having dependents, and to the availability of alternative employment opportunities in the local labor market, and that unemployment is related directly to the presence of health limitations. Moreover, it is expected that unemployment experience differs by the type of job separation; specifically, we hypothesize that low volition shifts are more likely to result in unemployment than are other kinds of shifts. Equations (5.2) and (5.3) below summarize these hypotheses.

$$(5.2)\quad \text{Probability of any Unemployment} = f_2\,(\underset{(-)}{\text{Human capital}},\ \underset{(-)}{\text{Wages}},\ \underset{(-)}{\text{Married}},\ \underset{(-)}{\text{Dependents}},\ \underset{(+)}{\text{Health}},\ \underset{(+)}{\text{Local unemployment rate}},\ \underset{(+)}{\text{In SMSA}},\ \underset{(+)}{\text{Low volition separation}}).$$

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of the technical and substantive questions addressed in these earlier studies, and it is hoped that future work will be undertaken to accomplish this.

[24] See in Table 5.9, n."i".

$$(5.3)\quad \text{Duration of Unemployment} = f_3\,(\underset{(-)}{\text{Human capital}},\ \underset{(-)}{\text{Wages}},\ \underset{(-)}{\text{Married}},\ \underset{(-)}{\text{Dependents}},\ \underset{(+)}{\text{Health}},\ \underset{(+)}{\text{Local unemployment rate}},\ \underset{(+)}{\text{In SMSA}},\ \underset{(+)}{\text{Low volition separation}}).$$

As expected, there are differences in the results according to whether quits in which a new job is arranged beforehand are included (Table 5.10) or excluded (Table 5.11) from the analyses. Inspection of the effects of the explanatory measures in the two sets of results suggests that marital status and schooling are responsible for the difference. That is, unmarried youth and high school dropouts, especially whites, appear to have a substantially higher probability of experiencing unemployment, as well as longer spells, in the first set of results, but this is not evident in the second. As noted earlier, these same youth are also less likely than other youth to line up new jobs in advance of quits. When the cases of "job lined up" are excluded, these relationships are substantially diminished, though more so among whites than among blacks.

Turning now to the findings based solely on those who did not line up new jobs in advance of a voluntary separation, we observe that urban workers of both races are far more likely to experience some unemployment, but do not have longer spells. In addition, the higher the level of wages on the previous job, the less likely is the incidence of unemployment. Also, particularly among blacks, those with health problems are not only more likely to experience unemployment, they are likely to have longer spells when they do.

The association between work experience and unemployment is particularly notable, for in none of the earlier tabular presentations on job separation did this variable play a major role. The present results indicate that work experience is related inversely to both the likelihood and length of unemployment, but only among young whites. In Chapter III above, it appeared that work experience had a higher payoff in wage levels for whites than for blacks; the same appears to be true with respect to employment stability.

Finally, those blacks who left their previous jobs under conditions termed "low volition" are more likely to have experienced unemployment; and, although low volition separations appear to lead to longer spells of unemployment for youth of both races, the sizes of the regression coefficients again point to a disadvantage for blacks.

IV SUMMARY AND CONCLUSIONS

This analysis has been directed at exploring (a) the incidence of various kinds of job separations and (b) the unemployment that accompanies

Table 5.10 Regression Results for Probability and Duration of Unemployment, by Race

(Absolute t-values in parentheses)

Explanatory variables	Probability				Duration in weeks			
	WHITES		BLACKS		WHITES		BLACKS	
	Coeff.	(t-value)	Coeff.	(t-value)				
LOCALUNRATEt[a]	0.8	(1.14)	0.4	(0.39)	0.1	(0.79)	0.1	(0.32)
SMSAt	10.7**	(3.22)	18.8**	(3.64)	0.5	(1.21)	1.2*	(1.35)
WAGEt	- 1.3	(1.18)	- 6.2**	(2.75)	0.1	(0.45)	- 0.3	(0.75)
MARRIED71	- 9.4**	(2.68)	-15.5**	(3.00)	- 0.8**	(1.98)	- 1.4*	(1.64)
DEPENDTS71	- 1.0	(0.62)	- 0.1	(0.03)	0.0^{-}	(0.20)	0.3	(0.89)
ED:EL71	10.0**	(2.51)	- 4.4	(0.81)	1.2**	(2.45)	- 1.0	(1.02)
ED:HS71								
ED:<BA71	- 0.3	(0.06)	-11.1*	(1.29)	- 0.2	(0.35)	3.9	(2.77)
ED:BA+71	- 5.2	(0.94)	-10.7	(0.68)	- 0.4	(0.55)	1.0	(0.42)
TRAINANY71	- 3.7	(1.07)	7.0	(1.29)	0.0^{-}	(0.01)	- 0.1	(0.10)
EXPERt	-0.20**	(4.22)	0.11	(1.89)	-0.02**	(3.33)	0.03	(2.86)
TENRt	-0.11	(1.01)	-0.13	(0.69)	0.03	(0.19)	0.00^{+}	(0.03)
MILDURTOT71	-0.30**	(2.34)	0.07	(0.24)	0.02	(1.64)	-0.03	(0.63)
HEALTH71	11.1**	(2.22)	21.6**	(2.92)	1.6**	(2.62)	4.8**	(3.80)
LOWVOLt	0.3**	(10.74)	0.4**	(9.04)	2.4**	(6.60)	4.1**	(5.32)
Constant	36.4	(5.92)	38.1	(3.77)	1.5	(2.15)	0.0^{+}	(0.01)
$\overline{R}^2$	.17		.25		.08		.13	
F-ratio	14.42		10.33		5.87		4.33	
Number of observations	912		392		806		325	
Dependent variable (mean, std. dev.)	44.9 49.8		56.1 49.7		2.47 5.20		3.83 7.07	

UNIVERSE: Job separations by young men 19 to 29 years of age in 1971, excluding those in which the respondent left the labor force directly.

a The suffix "t" denotes that a variable is measured at the time of the job separation, rather than at the NLS interview date.

0^{+} Indicates nonzero value rounded to zero.

0^{-} Indicates negative nonzero value rounded to zero.

* Statistically significant at .10 level.

** Statistically significant at .05 level.

Table 5.11 Regression Results for Probability and Duration of Unemployment, by Race

(Absolute t-values in parentheses)

Explanatory variables	Probability				Duration in weeks			
	WHITES		BLACKS		WHITES		BLACKS	
	Coeff.	(t-value)	Coeff.	(t-value)				
LOCALUNRATEt[a]	0.4	(0.49)	0.2	(0.16)	0.0^+	(0.17)	0.2	(0.66)
SMSAt	8.7**	(2.18)	15.4**	(2.85)	0.4	(0.67)	1.1	(0.90)
WAGEt	-2.7**	(2.18)	-8.1**	(3.42)	0.1	(0.30)	-0.3	(0.56)
MARRIED71	-0.8	(0.19)	-13.0**	(2.50)	-0.5	(0.72)	-1.4	(1.20)
DEPENDTS71	3.6	(1.74)	-0.5	(0.29)	0.2	(0.73)	0.4	(0.91)
ED:EL71	2.4	(0.51)	-3.8	(0.66)	1.1*	(1.37)	-1.3	(0.97)
ED:HS71								
ED:<BA71	-1.7	(0.32)	-24.9**	(2.82)	-0.4	(0.42)	4.1	(2.15)
ED:BA+71	5.3	(0.74)	-0.4	(0.02)	0.8	(0.61)	1.4	(0.29)
TRAINANY71	-2.8	(0.69)	4.5	(0.80)	0.1	(0.14)	-1.2	(0.90)
EXPERt	-0.27**	(4.57)	0.05	(0.74)	-0.03**	(2.89)	0.03	(2.26)
TENRt	0.09	(0.57)	0.19	(0.79)	0.04	(1.22)	0.08	(1.39)
MILDURTOT71	0.46	(2.89)	0.03	(0.12)	0.05	(1.76)	-0.02	(0.36)
HEALTH71	5.5	(1.04)	15.8**	(2.30)	1.8**	(1.97)	5.9**	(3.52)
LOWVOLt	4.6	(1.19)	18.6**	(3.94)	1.1**	(1.71)	3.4**	(3.06)
Constant	86.4	(11.21)	77.2	(6.57)	3.7	(2.89)	0.0^+	(0.01)
$\bar{R}^2$	.06		.16		.01		.07	
F-ratio	3.33		4.96		1.36		2.24	
Number of observations	545		292		439		225	
Dependent variable (mean, std. dev.)	75.8 42.9		77.9 41.6		4.61 6.37		5.72 7.99	

UNIVERSE: Job separations by young men 19 to 29 years of age in 1971, excluding those in which the respondent left the labor force directly or had prearranged a new job in advance of leaving the previous employer.

a The suffix "t" denotes that a variable is measured at the time of the job separation, rather than at the NLS interview date.

0^+ Indicates nonzero value rounded to zero.

* Statistically significant at .10 level.

** Statistically significant at .05 level.

each kind of separation. Data for experienced male workers, aged 19 through 29, for the year ending in the last quarter of 1971 provide the basis for the empirical work. This analytic design has had two basic purposes: to illuminate the character of unemployment in the young, experienced labor force and to uncover the factors associated with the duration of job search in periods of unemployment. The results can be summarized by reviewing the roles of the various measures used to explain unemployment experience. It is important in interpreting these findings, however, to bear in mind the unique definitions used here and the fact that all cases of labor market entrants and reentrants, as well as all students, have been excluded from the study.

Marital and Family Status

The well-known relationships between these measures of family responsibilities and unemployment were found to reflect their relationships with the likelihood of different types of job separations. In general, married youth were found to be (1) less likely to experience a low volition separation and, especially among whites, less likely to quit and (2) more likely to arrange new jobs in advance of quits. However, when married youth have job separations without new jobs lined up, they are no less likely than their nonmarried peers to incur unemployment, nor do they have shorter spells of joblessness.

Schooling

The relationship between level of schooling and unemployment was also found to reflect a relationship with type of job separation, at least among whites. When the cases of youth who arranged new jobs before a voluntary separation are excluded, the level of schooling was not related to either the incidence or length of unemployment. The principal effect of schooling, so far as unemployment is concerned, is to reduce the likelihood of a low volition separation, and, when a voluntary separation occurs, to increase the likelihood of having arranged a new job beforehand.

Job Tenure

Tenure was found to be associated with lower probabilities of every kind of separation considered and, in the case of whites, with "lining jobs up" in advance of quits. Excepting this, however, it was not found to be related to the incidence or to the length of unemployment.

Wage on Previous Job

With the inclusion of a set of measures of human capital, the level of wages on the previous job was used to represent the potential advantage which might result from job search. That is, all other things equal, workers with higher wages were expected to be less likely to search. The strong inverse relationship found to exist between previous wages and the incidence of unemployment is consistent with this expectation.

Race

Although rigorous tests of racial differences were not performed in this study, several differences between the findings for whites and those for blacks are noteworthy. For example, blacks were observed to be more likely than whites to experience both low volition and voluntary separations without prearranged jobs. The results of the multivariate analysis of unemployment experience suggested that the risk of joblessness declines with work experience for whites but not for blacks. It also appears that the effects of health problems and the effects of a low volition separation are each more damaging to blacks than to whites. Overall, the findings indicate that despite the progress registered by blacks during recent years, there is still some distance to travel before racial parity is achieved in the aspects of labor market experience covered by this study.

Interestingly, in another study using data from the earliest NLS surveys, it was reported that:

> (1) The relative unemployment of black males with little work experience has increased [between 1960 and 1970] while the relative unemployment of experienced black workers has declined, and (2) virtually all of the recent trend increase in the unemployment of teenage black males is associated with labor force entry.[25]

Our findings are in many ways not comparable to those which underlie this statement, especially since we have not considered unemployment among teenagers. Even so, the results reported here based on data excluding students, entrants and reentrants, contain no hint of a decline in either the incidence or duration of joblessness for blacks relative to whites as each group gains work experience.

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[25] Flanagan (1975), p. 13.

REFERENCES

Barrett, N.S. and Morgenstern, R.D. "Why Do Blacks and Women Have High Unemployment Rates?" *Journal of Human Resources* 9 (Fall 1974): 452-64.

Bowen, W.G. and Finegan, T.A. *The Economics of Labor Force Participation*. Princeton, N.J.: Princeton University Press, 1969.

Employment and Training Report of the President, 1976. Washington, D.C.: U.S. Government Printing Office, 1976.

Flanagan, R.J. "On the Stability of the Racial Unemployment Differential." Paper presented at the annual meetings of the American Economic Association, December 1975.

Garfinkle, S. "The Duration of a Spell of Unemployment." Unpublished mimeo. Philadelphia, Pa.: Temple University, undated.

Gilroy, Curtis L. "Job Losers, Leavers, and Entrants: Traits and Trends." *Monthly Labor Review* 96 (August 1973):3-15.

Hall, R.E. "Turnover in the Labor Force." *Brookings Papers on Economic Activity* 3 (1972):709-64.

Hedges, J.N. "Youth Unemployment in the 1974-75 Recession." *Monthly Labor Review* 99 (January 1976):49-56.

Hoyle, Kathryn D. "Why the Unemployed Look for Work." *Monthly Labor Review* 90 (February 1967):32-38.

__________. "Job Losers, Leavers and Entrants." *Monthly Labor Review* 92 (April 1969):24-29.

Kaitz, H.B. "Analyzing the Length of Spells of Unemployment." *Monthly Labor Review* 93 (November 1970):11-20.

Kalachek, E. *The Youth Labor Market*. Washington, D.C.: Institute of Labor and Industrial Relations, The University of Michigan and Wayne State University and the National Manpower Policy Task Force, 1969.

Kohn, M.G. and Shavell, S. "The Theory of Search." *Journal of Applied Economic Theory* 9 (1974):93-123.

Lippman, S.A. and McCall, J.J. "The Economics of Job Search: A Survey." *Economic Inquiry* 14 (June 1976):155-189.

Mattila, J.P. "Job Quitting and Frictional Unemployment." *American Economic Review* 64 (March 1974):235-39.

Nelson, P. "Information and Consumer Behavior." Journal of Political Economy 78 (April 1970):311-29.

Parsons, D.O. "Specific Human Capital: An Application to Quit Rates and Layoff Rates." Journal of Political Economy 80 (December 1972): 1120-43.

________. "Models of Labor Market Turnover: A Theoretical and Empirical Survey." Unpublished mimeo. Columbus: Department of Economics, The Ohio State University, 1975.

CHAPTER VI

DETERMINANTS AND CONSEQUENCES OF SERVICE IN THE ARMED FORCES DURING THE VIETNAM ERA*

I INTRODUCTION

Most of the young men under study were undergoing the transition from adolescence to adulthood during the turbulence produced by the Vietnam War. For many, this war intervened directly in the transition process as they became the manpower that staffed the American armed forces.[1] Most of those who survived the conflict in Southeast Asia reentered the civilian population as Vietnam era veterans. In their roles as soldiers and veterans, these men were an integral part of the American experience of the 1960's. Any study of male youth during this period (1966-1971) would be incomplete if it ignored the Vietnam era veteran.[2]

In the early sixties, when the U.S. military efforts in Southeast Asia were receiving overall public support, the draft was generally accpeted and constituted the cornerstone of the military recruitment process. While it was not the principal means of inducting men into military service, the presence of the draft often induced the enlistment decision.[3] However, the equity of the draft became a widely debated national issue as draft calls increased in response to the intensification of the war and the increasing number of reported weekly casualties.[4] Deferments for college students were seen as the means of placing the burden of the fighting on young men from the lower and lower-middle social classes. Ultimately, military manpower policy was changed with the enactment of the lottery in 1969 and the cessation of the draft. Although the young men who served during this total period probably were not the "Poor Man's Army"[5] as characterized by many including the popular press, it seems clear that military service during the Vietnam conflict was not randomly distributed among young men in the relevant age range.[6] It is therefore of consequence to inquire who these men were and what socioeconomic characteristics they possessed.

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*This chapter was written by Andrew I. Kohen and Patricia M. Shields.

[1] Clearly, the Vietnam War and the concomitant draft entered the decision calculus of many young men who never entered the armed forces. However, the NLS data provide no direct way of determining the extent to which college attendance was a method of draft evasion. Johnston and Bachman (1972) report that ". . . 20 percent of the college youth mentioned avoiding the draft among their three most important reasons for entering college" (p. 111).

[2] As of the last quarter of 1971 there were 4.3 million Vietnam era veterans between the ages of 20 and 29. They comprised 31 percent of the civilian noninstitutional population of this age group. Michelotti and Gover (1972), p. 8.

[3] A 1970 Defense Department study estimated that 50 percent of all Army and Air Force volunteers were "reluctant volunteers" (Helmer, 1974, p. 3). Clearly, over the history of the Vietnam conflict the proportion of reluctant volunteers varied.

While the debate over the equity of the draft continued, the experiences of the young men returning from the armed services also began to draw national attention. In the early years (1964-1966), a relatively steady flow of veterans reentered a healthy civilian economy (Figure 6.1), making their assimilation into the labor force relatively easy. However, this changed dramatically as the economy slumped, the war intensified, and the number of men discharged annually began to rise (Figure 6.1). Increasingly, veterans and their readjustment problems became the focus of national attention. Newspapers, magazines and television emphasized major themes such as the frustration of unemployment and the psychological readjustment problems of the returning soldiers.[7] Relative to their white counterparts, black veterans ostensibly found assimilation even more difficult. They experienced higher rates of unemployment, on average, and had to cope with returning to a society and economy plagued by racial tensions.[8]

In response to veterans' needs, Congress enacted several pieces of legislation aimed at facilitating the transition from military to civilian life. As a consequence of this action, veterans received preferential hiring with respect to government jobs, increased educational assistance allowances, special counseling with regard to both employment and drug abuse, and access to a multitude of other special benefits. The readjustment problems of veterans also stimulated interest within the social science community and eventuated in research devoted to many aspects of the assimilation process.

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[4] Useem (1973), pp. 99-113.

[5] This characterization is used both by Helmer (1974), pp. 3-10, and by Ladinsky (1975).

[6] Some young men who served during the Vietnam era entered the military prior to 1964. While the war spanned 10 years, those who were discharged in the early war years may have been much different from those who entered during periods of heavy combat. Two hundred sixty-seven young men in the NLS sample were Vietnam veterans at the time of the initial survey.

[7] Lifton (1973); Starr (1973); U.S. Senate (1974).

[8] Fendrich and Axelson (1971); Michelotti and Gover (1972).

In this study we have the dual objectives of exploring the determinants of entering the armed forces during the Vietnam era and investigating the links and spillovers between (short term)[9] military service and subsequent labor market experiences. In the next section we focus on the first of these objectives, beginning with a theoretical framework within which to examine the factors associated with service in the armed forces and concluding with the application of the NLS data to this framework. In Section III we explore several questions related to the postservice experience of the Vietnam era veterans. First, the impact of service in the military on a young man's earnings, occupational status and unemployment experience in 1971 is the focus of attention. Then we turn to more subjective measures of the impact of service in the military by investigating the correlates of the veterans' self-reports of the effects of service on their civilian careers. In the final section of the study the findings of the preceding sections are summarized and their implications are highlighted.

II THE LIKELIHOOD OF SERVICE IN THE ARMED FORCES DURING THE VIETNAM ERA

As has been indicated above, the draft played a key role in the recruitment process throughout the Vietnam era. By definition, a conscripted individual who wishes to remain a citizen in good standing has no feasible alternative to entering military service. In a period of armed conflict where the risk of injury and death associated with membership in the armed forces increases, the question of who serves takes on new significance.

From the demand side of the picture, it is important to recognize that young men of the Vietnam era were born and reached maturity during a period characterized by frequent international crises (World War II, Korea, Berlin, Cuba). These crises provided the climate in which the draft was viewed as a necessary policy tool, for it permitted able men to be drawn quickly into service in the event of an emergency. In addition, the military pay scale was maintained below the civilian wage, thereby holding down defense expenditures. On the supply side, the post World War II "baby boom" provided a large pool of eligible young men from which to draw. Hence, the Selective Service had the freedom to develop multiple criteria for either exempting or deferring young men from military service. Because the nature of these selection criteria was felt systematically to exclude upper class youth to the detriment of the lower classes,[10] the Selective Service and its draft classification scheme came under attack. In developing a model to explain the likelihood of serving in the armed forces during the Vietnam conflict, we draw heavily upon criterion measures established by the Selective Service,[11] descriptive material about who served,[12] and studies that have focused exclusively on the personal decision to enlist.[13]

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[9] Most of the veterans in the NLS sample served in the military for less than four years. Contributing to the incidence of short term service during the 1966-1971 period were the draft and lottery conscription methods.

Conceptual Framework

A healthy young man of this period could not make realistic decisions about future plans without taking into account the Selective Service System, for the armed services legally had a prior claim on him. However, if a young man did not meet certain minimum physical and mental health standards,[14] he was automatically excluded. Additionally, young men who could meet specific criteria established

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[10] Helmer (1974).

[11] National Advisory Commission on Selective Service (1967).

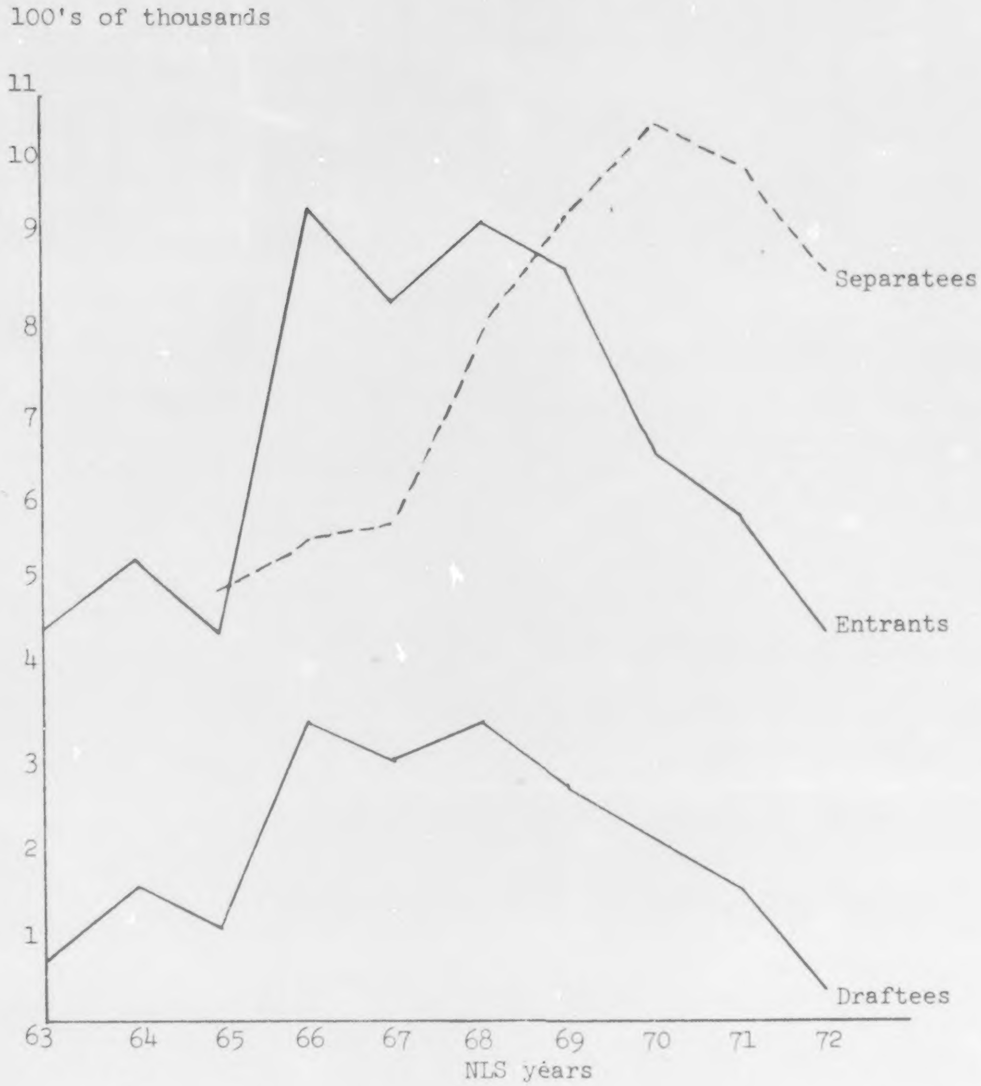
[12] Helmer (1974); Useem (1973); U.S. Senate (1974).

[13] Johnston and Bachman (1972); Studies Prepared for the President's Commission on an All-Volunteer Armed Force (1970).

[14] Until the inception of Project 100,000 (1966), young men were not eligible to serve in the armed forces if (1) they scored below the tenth percentile on the Armed Forces Qualification Test (AFQT) or (2) they scored between the tenth and thirtieth percentiles and failed the minimum requirements on the Army Classification Battery (ACB) or the Army Qualification Battery (AQB) (Karpinos, 1966). Project 100,000 was begun as a part of the Defense Department's War on Poverty. The minimum mental test score requirements were lowered in order to give low-scoring men the chance to learn skills in the military. The new minimum standard was a score as low as the tenth percentile on the AFQT if (1) the youth was a high school graduate or (2) he received a minimum score on one of seven aptitude tests (Wool and Flyer, 1969). Note that while the minimum mental requirements were lowered, they were not abolished. These "New Standards" men comprised 9 percent of the entrants to the Armed Forces between 1966 and 1968.

Figure 6.1

Number of Entrants, Draftees, and Separatees, by Year



SOURCE: Statistical Abstract of the United States 1960-1972. U.S. Department of Commerce, Bureau of the Census; and Data on Vietnam Era Veterans: A Report prepared by the Veterans Administration submitted to the Committee on Veterans' Affairs United States Senate. Committee on Veterans Affairs, 1976.

by Selective Service regulations were deferred (i.e., were not liable to the draft while so classified). Although the criteria for deferment were revised a number of times during the Vietnam era,[15] hardship and student deferments remained relatively stable. The hardship deferment, based mainly on the presence of a child, constituted a permanent deferment contingent primarily upon the existence of alternative manpower for the maintenance of a minimum level of national security. The student deferment, on the other hand, was designed to be temporary; upon graduation or withdrawal from school a II-S classification almost automatically was converted to a I-A, which meant that the former student entered the draft-eligible set.[16] However, student deferments could be converted into de facto exemptions, through subsequent occupational or hardship deferments.[17]

Aside from Selective Service criteria, there are various personal characteristics that may reasonably be expected to be associated with the likelihood of serving in the military. Since the question we address has never been dealt with directly, we must rely heavily upon literature that focuses on factors associated with a young man's personal decision to enlist.[18] However, while the enlistment decision is relevant to our study, it is merely one important component of the participation by a young man in the armed forces. As such, it is important to consider possible countervailing effects of some factors that would decrease the likelihood of serving, even though the factors may be positively associated with the enlistment decision.

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[15] Useem (1973).

[16] The precise criteria for a student deferment changed throughout the Vietnam era. Until 1966, enrollment in a graduate or undergraduate program insured deferment. For a short time (1966) the II-S was based on class standing. Graduate student deferments (except for students in medical or related fields) were abolished in 1967, while undergraduates making "normal progress" toward a degree continued to be protected. In 1969 the lottery was established and student deferments were no longer extended to incoming students. However, existing deferments were continued until graduation or withdrawal from school.

[17] National Advisory Commission on Selective Service (1967).

[18] The draft and problems associated with it led the Defense Department to sponsor several research studies that looked exclusively at the enlistment decision. See Studies Prepared for the President's Commission on an All Volunteer Armed Force (1970) and Johnston and Bachman (1972). Hence, unlike the broad question of the likelihood of entering, there is a substantial body of literature from which to draw for enlistment explanations.

In addition to the obvious distinction between enlistment and induction, these studies tend to address even more narrow criterion measures than ours. For example, Johnston and Bachman explore the enlistment decision only in the year following high school graduation.

The existing literature reveals that a young man's enlistment decision stemmed from a variety of sources, including draft pressures, opportunities associated with service (e.g., training and the G.I. Bill), the chance to escape an unpleasant civilian environment, and several personal background characteristics. It is clear that the draft did induce many enlistments during this period.[19] Enlistment often reduced the likelihood of combat duty as well as offering a young man a relatively greater degree of choice of branch of service, participation in training, military occupational specialty, and number of years of obligation. Indeed, for some individuals, enlistment may have offered relatively more attractive options than the civilian labor market.

In addition, it has been hypothesized that the military is a potential vehicle by which a young man may (temporarily) escape an unpleasant environment. For example, individuals who have experienced or anticipate experiencing racial or social class discrimination would be more likely to enter the armed forces, ceteris paribus.[20] Yet, although the military traditionally has been viewed as an avenue which blacks have used to escape racial or social class discrimination, there are countervailing forces that make it unclear whether the overall rate of participation in the military will be greater for blacks than for whites. That is, while opportunities for training and status advancements may be such as to induce a higher rate of enlistment for blacks, the greater likelihood of black inductees scoring very low on the mental examination serves to reduce the rate of conscription for blacks.[21]

Hence, our study departs even further from theirs because (1) they include as enlistees young men who attempted to enlist but were rejected and (2) they exclude young men who enlisted after the year following high school graduation. Enlistment studies prepared for the President's Commission are also narrower in that they limit the question to specific branches of service (Cook, 1970; White, 1970; Fechter, (1970) or to specific ranks (Altman and Barro, 1970).

[19] Johnston and Bachman (1972), pp. 60-70; *Studies Prepared for the President's Commission on an All Volunteer Armed Force* (1970), II-1, II-3, II-4, II-5, and II-10.

[20] Johnston and Bachman (1972).

[21] Between 1964 and 1965, 59 percent of the black inductees failed the mental examination as compared to 25 percent of the white. Karpinos (1966).

On the other hand, by lowering the mental ability requirements through Project 100,000[22] the armed forces attempted to increase participation among blacks. This hope seems to have been realized; as of 1968, 33 percent of the New Standards men were blacks.[23] This in turn contributed to the popular belief that blacks were more likely to serve during the latter part of the Vietnam conflict.[24]

Some observers have suggested that there is reason to expect a relationship between geographic region of residence and the decision to enlist. First, some studies of enlistment behavior have hypothesized but have not confirmed a higher likelihood of enlistment by young men from the South.[25] An examination of AFQT disqualification rates by state reveals a pattern that may explain why earlier studies have not confirmed the hypothesis. That is, the more rural Southern states show higher than average rejection rates,[26] perhaps deriving from lower quality educational systems in the rural South. Thus, a higher-than-average propensity to enlist in the South may be offset by a higher-than-average rate of failure on the AFQT among rural Southern youth. Another reason to expect that region will be related to the likelihood of serving in the armed forces is that, during the Vietnam War, college students in the Northeast were influenced by the high level of protest against the war, and were less likely to enlist.[27] In order to investigate these hypotheses, our model includes a variable representing the interaction between urbanicity and region of residence.

Since the student deferment was central to controversy over the draft, it is necessary to examine variables associated with its impact. Johnston and Bachman found that some variables predict enlistment solely because they are inversely associated with college entrance. For example, men with high-measured mental ability and successful high school careers were less likely to enlist. In addition, their study indicated that young men of higher socioeconomic levels were more likely to attend college and, thus, more likely to avoid entering military service. These findings are consistent with the popular notion that members of the middle and lower classes actually served in disproportionate numbers. Thus, an explanatory variable representing socioeconomic status of parental family is included in the model.

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[22] See footnote 14.

[23] Wool and Flyer (1969).

[24] Helmer (1974); U.S. Senate (1974).

[25] The hypothesis was grounded in the popular notion that the traditions of the South are congenial to the pageantry of the military. For elaboration and empirical results see Johnston and Bachman (1972), p. 105 or Gray, II-2 (1970).

[26] Even controlling for race, Karpinos found that draftees from the South were half again as likely as all youth to be rejected for mental reasons. His data also indicate that AFQT failure rates in the predominantly rural Southern states were twice the national rate. Karpinos (1966), p. 102.

[27] Altman and Barro (1970), II-10.

Finally, the intensity of the war effort played an important role in the likelihood of a youth entering the armed forces. If a young man became eligible for the draft between 1966 and 1968, he entered a draft pool from which the proportion drawn had grown significantly, which increased the probability of his serving. Hence, a variable indicating the intensity of the war is included in the model.

Empirical Model and Results

In order to examine the issues raised in the preceding discussion, we use data for all young men in our sample who could have become veterans during the Vietnam era, defined as the period from 1964 to 1971. Operationally, the dependent or criterion variable is a dichotomy that distinguishes between those who served in the armed forces during the Vietnam era and those who did not, irrespective of whether they were discharged by late 1971.[28]

In review, the explanatory variables used in the analysis can be divided into two broad categories: (1) Selective Service criteria and other "demand" factors and (2) personal characteristics associated with the student deferment and the enlistment decision. Selective Service criteria include (a) health condition at age 18;[29] (b) a below-average level of measured mental ability; (c) the presence of dependents at age 18; and (d) the student deferment (i.e., educational attainment at age 18). The other "demand" factor is operationalized in a dichotomous variable indicating the intensity of the war at the time that the respondent became 18 years of age.

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[28] The sample excludes veterans who were discharged prior to 1964 and thus is consistent with published statistical accounts of Vietnam era veterans. Since the Vietnam War ended in 1973, this study understates the total proportion of young men in the age cohort who served by excluding those who entered in 1972 and 1973. However, the declining entrance rates after 1971 and the age of the NLS cohort (the youngest respondent was 19 in 1971) make it unlikely that the results would change substantially if 1972 and 1973 entrants were included. It is possible to identify military/civilian status for respondents not interviewed in a given survey year, with the minor exceptions of those who were not eligible for interview by virtue of (1) an earlier refusal to participate in the NLS or (2) having been dropped from the panel for two consecutive (nonmilitary) noninterviews.

[29] In preparing the data for the study, it was necessary to construct variables which utilize individual characteristics at a

Personal characteristics associated with the student deferment include (a) above-average socioeconomic level of parental family and (b) above-average level of measured mental ability. In addition to the preceding personal traits, the following characteristics are included in the analysis because of their hypothesized relationship with enlistment behavior: average level of measured mental ability; average and lower socioeconomic level of parental family; residence in the rural South, the urban South, or the Northeast at age 18; and race. For reasons discussed above, parabolic relationships are hypothesized between the likelihood of serving in the military and levels of measured mental ability and education completed at age 18. That is, high and low values on both variables are expected to be negatively associated with participation in the armed forces.

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common "age" reference point, i.e., at a time prior to entrance into the service. This is essential becsuse predicting the likelihood of serving demands preservice traits as the relevant criteria. We chose to look at the characteristics as of a young man's 18th year, because eligibility to serve without parental consent and draft registration both occur at the 18th birthday. In addition, reliance on data as of age 18 minimizes the risk of picking up personal characteristics that were caused by military service, e.g., a service-related health limitation.

These explanatory variables are not so precise as their titles imply. For men who were 19 to 24 in 1966 it was necessary to use retrospective background variables. For young men who were 18 between 1966 and 1971, variables from the survey date corresponding to their 18th birthday were utilized. In cases of panel members not interviewed at that survey, the survey corresponding to their 17th birthday was used. The logic behind "region of residence at age 18" is illustrative. Respondents who were 19 and over in 1966 were asked to compare their residence at age 18 with their 1966 residence. If the two residences were identified as being in the same Census region, the variable was assigned their 1966 region. If the regions of residence were different, region of residence while in high school was used as the proxy. For respondents who were 18 or younger in 1966 the variable was assigned the region of residence corresponding to the year the respondent turned 18. However, there are 467 young men who were not interviewed the year they turned 18. Rather than eliminate these respondents from the analysis, the decision was made to search backward in the longitudinal record for the region of residence at the most recent interview prior to age 18.

Methodology

The hypotheses described in the preceding section are tested by means of Multiple Classification Analysis (MCA), a version of multiple regression analysis with all the explanatory variables expressed in categorical form.[30] The MCA technique permits one to calculate the mean value of the dependent variable for each category of a particular explanatory variable, "adjusted" for the effects of all other variables in the model. Differences in these values among the several categories of a given variable may be interpreted as indicating the "pure" effect of that variable upon the dependent measure. To provide a specific example, the MCA technique allows one to calculate for each SES category of youth what the proportion of the category who served would have been had the members of that category been "average" in terms of all the other variables entering into the analysis.

Results

Most of the hypotheses presented in the preceding section are supported by the analysis (Table 6.1). Having health problems and/or dependents at age 18 reduced the likelihood of serving in the armed forces, although the former achieves statistical significance only among whites. A nonmonotonic (parabolic) relationship was hypothesized for mental ability (IQ) and for education at age 18. Both variables exhibit this relationship, although IQ obtains most of its explanatory power from the strong positive relationship between military service and an average level of mental ability. By contrast, education demonstrates the hypothesized relationship more forcefully in that the respondents with only elementary education and those with at least some college training were significantly less likely than average to enter the military.

Of special interest is the finding that socioeconomic status per se was not related to military service during the Vietnam era, once the effects of education and mental ability are taken into account. Of course, it is true that social class background had indirect impacts on the probability of serving because of its influence on both measured mental ability and educational attainment at age 18. It is also

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[30] In order to maximize the data cases available for analysis, codes of NA on IQ, socioeconomic level, and type of residence at age 18 were included in the MCA, but the coefficients are not analyzed. While being coded NA on the variables ordinarily would not be thought to be related to the probability of entering the armed forces, the NA's on the first variable are not randomly distributed throughout the sample. Because of data collection methods, NA's on IQ are concentrated among the most disadvantaged, least well educated youth, especially blacks who grew up in the rural South. Clearly, therefore, those coded NA for IQ should be expected to be least likely to have participated in military service.

Table 6.1 The Likelihood of Serving in the Armed Forces during the Vietnam Era: MCA Results

(F-ratios in parentheses)

Characteristic	WHITES		BLACKS	
	Number of respondents	Adjusted[a] likelihood of serving	Number of respondents	Adjusted[a] likelihood of serving
Total or average	3,627		1,432	
Mental ability		(6.56)#		(4.08)#
Above average	809	27.9	27	28.2
Average	1,534	32.7**	264	33.0**
Below average	301	27.9	314	26.0
NA	983	24.9**	827	23.0**
Socioeconomic status		(0.41)		(0.78)
Lower SES	629	28.7	701	25.9
Middle SES	1,439	30.1	444	27.3
Higher SES	1,403	28.7	100	21.4
Education at age 18		(10.44)#		(22.76)#
0-8 years	235	21.7**	234	9.6**
9-11 years	922	29.9	594	22.8**
12 years	1,844	32.2**	508	35.9**
13-15 years	626	22.0**	96	20.5
Residence at age 18		(2.67)#		(4.66)#
North East	876	27.0*	156	20.6*
North Central	1,082	29.8	216	24.2
South-Urban	456	33.7**	442	32.4**
South-Rural	572	24.9**	498	24.2
West	554	31.1	57	10.0**
Health condition at age 18		(35.37)#		(2.04)
No health problems	3,429	30.2**	1,367	26.0
Health problems	198	10.5**	65	17.7
Dependents at age 18		(7.68)#		(9.08)#
None	3,511	29.6**	1,329	26.6**
Some	116	17.8**	103	13.2**
War intensity at age 18		(46.18)#		(24.69)#
Intense period	1,236	36.5**	548	33.6**
Not intense period	2,391	25.7**	884	21.9**
Grand mean		29.2		25.7
$\bar{R}^2$		.04		.09
F-ratio		9.45		9.70

(Table continued on next page).

Table 6.1 Continued

UNIVERSE: Respondents 19 to 29 years old in 1971 who were not discharged from the armed forces prior to 1964.

a Adjusted by multiple regression technique of holding constant all other variables shown in the table.

Statistically significant at .05 level.

* Category is significantly different from the grand mean at .10 level.

** Category is significantly different from the grand mean at .05 level.

noteworthy that the variable indicating the war's intensity when the young man reached age 18 displays a strong relationship with the likelihood of his serving. Obviously, participation in the military service in the presence of the conscription system is a function of the unpredictable nature of American foreign policy and the fortunes of war. Finally, as hypothesized, geographic area of residence shows a significant relationship to the probability of having served in the military. Young men from the urban South were more likely than average to serve and those from the Northeast were less likely than average to serve.

Overall, a somewhat larger proportion of white than of black youth served in the armed forces between 1964 and 1971 (29 versus 26 percent). Although this intercolor difference shrinks when other factors are controlled and is not statistically significant, it is in rather sharp contrast to the prevailing popular notion that young black men bore a disproportionate burden of the war effort. However, the racial differences in the effects of some of the factors explaining participation in the military are worthy of note. The most pronounced of these is that the health variable does not achieve statistical significance among black youth, whereas it is very powerful among whites. Indeed, blacks with reported health problems were about three-fourths more likely to serve than their white counterparts. While we can only speculate, it may be that the greater relative attractiveness of the military vis-a-vis the civilian labor market for blacks induced those with subtle or minor health problems (e.g., allergies) to waive their right to nonservice more frequently than similarly afflicted whites.

An additional racial difference appears for youth who had completed fewer than 12 years of school. While entering the service was negatively related to an elementary education at age 18 for both races, the absolute difference between blacks and whites in this category is very large: whites were twice as likely as blacks (22 versus 10 percent) to enter the military. For youth who dropped out of high school or had not graduated by age 18, the likelihood of serving is significantly below average for blacks but not significantly different from average for whites. Hence, minority youth who perhaps had most to gain from the service were least likely to enter.[31]

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[31] The racial differences discussed in this paragraph may arise from the fact that for both educational categories blacks had completed fewer years of schooling than had whites. Within the elementary school category a black youth was approximately twice as likely as a white (36 versus 19 percent) to have completed fewer than seven years of school by age 18. Within the group who had attended but not finished high school at age 18, while equal proportions (i.e., 17 percent) of the color groups had only nine years of schooling, fewer blacks than whites (49 versus 57 percent) had completed eleven years. Hence, on average, whites had accumulated more human capital and were better equipped to pass the AFQT.

Finally, the geographic background variable exhibits some interesting racial differences. While the likelihood of serving was significantly higher than average for a young man from the urban South, irrespective of color, the reasons probably differ for whites and blacks. For the former group we are inclined to believe the popular notion of the congeniality of military traditions and Southern culture. For the latter, it seems that the military maintained its potential as a feasible avenue of escape from racial discrimination in the labor market even during the Vietnam conflict. Among young whites, but not blacks, from the rural South the rate of participation in the armed forces was significantly lower than average. The strong negative effect among whites probably derives both from the availability of occupational (agricultural) deferments and from lower quality schooling leading to higher failure rates on the AFQT. The weaker effect among black youth may be attributable to an above-average propensity to enlist in order to escape labor market discrimination, which partially offsets the negative effect of lower quality education. Finally, the absolutely and relatively lower likelihood of a young black than a young white serving if he resided in the Northeast or West may be attributable to lower levels of racial discrimination in those regions. That is, these lower levels of discrimination may have either provided labor market opportunities that made the armed forces relatively less attractive or provided an environment more sensitive to the dangers and political issues associated with participation in the wartime armed forces.

III POSTSERVICE LABOR MARKET EXPERIENCES OF YOUNG VETERANS

Introduction

A young man's military experience is often an interruption in his life plans with unknown consequences. On the one hand, being a veteran may make a young man more attractive to employers relative to nonveterans, effecting an increase in short-run and long-run earnings. Conversely, military experience may serve only as a discontinuity in human capital accumulation with adverse consequences for long run success. The overriding question investigated in this section is whether service in the armed forces during the Vietnam era had any net (independent) effect on the subsequent civilian labor market experiences of young men.

As serious students of this question have realized, to date neither abstract theorizing nor empirical studies have yielded unambiguous conclusions about the direction of such as effect.[32]

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[32] Beusse (1974); Browning, Lopreato and Poston (1973): Cutright (1973): Jurkowitz (1968): O'Neill, Ross and Warner (1976); Weinstein (1969).

A young man's service in the armed forces has the potential of adding to his human capital in the form of new specific vocational skills, increased general educational credentials (e.g., attainment of GED equivalency status, receipt of honorable discharge papers treated as equivalent to a high school diploma), broadened geographic horizons (an increased propensity to be mobile), "improved" work habits (e.g., punctuality, adherence to instructions, teamwork) and additional resources with which to pursue civilian education and training (i.e., G.I. Bill benefits). Furthermore, while the draft was in effect, the potential cost of turnover to employers was smaller for youth who had fulfilled their military obligation. In addition, national campaigns to hire returning veterans generated some preferential hiring out of a moral sense of indebtedness to young men who fought on behalf of the nation; the same result was generated more formally in the public sector by virtue of veterans' preference under civil service systems.

On the other hand, military service also implies a loss of at least two years of potential civilian labor market exposure and experience,[33] even though legislative and collective bargaining actions have attempted to minimize this loss. For example, the Selective Service Act of 1967 stipulated not only that a young man holding a nontemporary job was guaranteed the right to return to that job after military service, but also that he did not lose any seniority status accumulated up to the time of entrance into the armed forces.[34] Some unions through collective bargaining have extended these rights to include additional accumulation of seniority while a young man is in the military service, and even promotions and pay increases in absentia. Another potentially negative impact of military service on subsequent labor market experience is the heightened likelihood of physical disability which limits the type and/or amount of work a young man can do. Last, but certainly not least, is the psychological damage which afflicted some young veterans of the Vietnam era.[35] To the extent that they were stigmatized as participants in the war and/or felt personal guilt about their associations with the military establishment, veterans may have exhibited attitudes that impaired their productivity in job search and on the job.

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[33] Strictly speaking, the period could be less than two years if, for example, a young man was severely wounded and discharged early, or if he was in combat for an extended period and "earned" an early discharge. Our operational definition of a veteran requires active duty for a minimum of only six months.

[34] Waldman (1970).

[35] Fendrich and Axelson (1971); Lifton (1973); Polner (1971); Starr (1973).

While the military's intervention into a young man's life is felt by all those who enter the armed forces, the effect may be more pronounced among minority and disadvantaged youth. On the one hand, the military traditionally has been viewed as a means to escape discrimination and as a means to achieve status advancement. Thus the military experience would be perceived as an antecedent to later labor market success. For example, Browning et al. postulate that the armed forces may create a "bridging environment" that aids successful minority group assimilation into the civilian labor market. Minority youth often reside in enclaves isolated from mainstream society, and service in the military tends to sever community ties and to reduce dependence upon racial or ethnic enclaves.

On the other hand, this type of positive effect of service may have been less likely in the Vietnam era, as the result of the widespread feeling that U.S. involvement in the war was unjust. In addition, black youths were less likely to receive valuable training and more likely to participate in combat than their white counterparts.[36] Fendrich and Axelson suggest that in the black community traditional sentiments about the military changed dramatically as the war intensified (i.e., why should a black youth die in Southeast Asia to save democracy that does not really exist?).[37] This, in turn, led to a heightened degree of political alienation among returning black veterans. Finally, disadvantaged youth were less likely to avail themselves of programs (e.g., the G.I. Bill) that facilitated the assimilation process.

Clearly, "military experience" is not monolithic, nor is its impact on subsequent civilian labor market experiences. Among the potentially salient dimensions of variation are branch of service, type of military occupation, length of active service, and type of formal training. A long standing recruiting technique has been to emphasize the uniqueness of one branch of the armed forces in contrast to the others. Weinstein found that Navy veterans more easily transferred their skills to the civilian sector than did Army veterans.[38] He conjectured that this resulted from philosophical differences underlying training programs in the several branches of the armed forces--namely that Navy training was designed to be more general and to be applied to a wider range of job situations. However, Weinstein's study was based on a sample of pre-Vietnam era veterans. A subsequent study utilizing data on Vietnam era veterans found no consistent net association between branch of service and subsequent labor market success, although later civilian earnings were found to be relatively lower among Army veterans in some military occupation groups.[39]

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[36] U.S. Senate (1974).

[37] Fendrich and Axelson (1971).

[38] Weinstein (1969).

Another source of differentiation in the military experience is type of training. For example, O'Neill et al. found that the labor market payoff to training in the armed forces differs by type; i.e., the higher the status of the civilian counterpart of the training, the more likely the training is to be positively associated with earnings. Length of active service is another factor contributing to differences in the effects of military experience. O'Neill et al. discovered no positive association between subsequent earnings and length of military service, except for veterans who had been electronic equipment repairmen in the military.[40]

Aside from the implications of military service for income and occupational attainment, there is considerable academic and policy concern about the process by which a newly discharged veteran becomes a fully participating member of the civilian sector. For some veterans the process involves long spells of unemployment. In early 1970 unemployment among veterans began to rise, and it continued to do so through 1971, reaching 11.4 percent in the final quarter of that year.[41] For the younger veterans this was one-third again as high a rate of unemployment as that experienced by nonveterans of the same age and race.

Perhaps the most important factor contributing to increased unemployment among veterans was the coincident rising level of general unemployment and the peaking of the discharge rate in the 1969-1971 period. The relative youth of the Vietnam era veterans at the time of discharge probably also contributed to the higher-than-historical incidence of unemployment. The average age at discharge of Vietnam era veterans was 23 in contrast to 25 for Korean War veterans and 27 for veterans of World War II. Thus, the Vietnam era veterans had had relatively less time to accumulate meaningful labor market experience prior to entering the armed forces.[42]

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[39] O'Neill, Ross and Warner (1976).

[40] According to a personal communication from John Warner (one of the authors), the lack of a generally positive association may have resulted from inclusion of a variable representing highest military paygrade, because this variable is highly correlated both with length of service and with postservice earnings.

[41] Michelotti and Gover (1972).

[42] Showell (1975).

Obviously, during the Vietnam era the Defense Department's focus was on winning the war and, therefore, on producing "soldiers," an occupation with relatively few nonmilitary applications. There was little, if any, concern for the civilian manpower implications of military training, and this placed veterans at a competitive disadvantage upon their re-entrance to the civilian labor market. Even though re-employment rights were guaranteed, few veterans took advantage of this right.[43]

However, there also were forces that tended to inflate artificially the unemployment rate among veterans. First, virtually all veterans were eligible for unemployment insurance benefits. While it was technically true that a veteran had to be looking for work during the benefit period, as a practical matter, State Veteran Employment Representatives relaxed standards for recently discharged veterans, allowing them several weeks to readjust to civilian society.[44] Second, it has been suggested that the educational benefits of the G.I. Bill tended to inflate the rates.[45] Because the educational system is typically demarcated into 10 to 15-week periods, veterans waiting to enroll had to seek temporary employment and were faced with employer reluctance to hire them in the face of their imminent return to school.

Models and Empirical Results

Models In order to examine the first two of several questions about the effects of military service on postdischarge labor market experience, we employ rather conventional models relating to the determination of earnings and occupational status and add a variety of measures to identify various categories of veterans. To illustrate, the regression model to explain hourly rate of pay includes traditional human capital variables (education, formal training, ability, work experience, tenure on current job, health condition); environmental variables (urbanicity, region of residence); and job context variables (public sector employment).

Several alternative sets of variables to distinguish veterans are also included in the equation. First, categories of veterans are separately identified by dummy variables indicating whether training was received in the military and in which branch of service the veteran served (e.g., Army veterans with training are differentiated from Army veterans without training). Second, an alternative equation is estimated by including, as substitutes for the variables representing training and branch of service, dummy variables indicating whether the veteran's military and post discharge jobs were in the same major occupational group. As a third alternative, these dummy variables are all deleted and a variable measuring the total number of months of active military duty is included.[46] In each of the three specifications, the total amount of civilian work experience is divided into two portions--i.e., experience prior and subsequent to military service.[47] Finally, each equation includes a dummy variable specifying whether a veteran returned to school after being discharged.

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[43] Werner and Radcliff (1973).

[44] *Manpower Magazine* (1971).

[45] Werner and Radcliff (1973).

Because of the well-documented racial differences in the determinants of wages and occupational status, separate regression equations are estimated for blacks and whites, which in turn enables us to evaluate whether the effects of military service differ according to race. The universe for which the equations are estimated consists of 19- to 29-year-old men who were both out of school and employed at the time of the 1971 survey.

Turning next to the impact of service in the armed forces on the unemployment experience of veterans, we again employ regression equations that control for several variables expected to be related both to the criterion measures and to the status of being a veteran. Because the "proper" dependent variables cannot be specified unambiguously, two alternatives are presented, namely the probability of experiencing at least one week of unemployment during 1971 and the proportion of time in the labor force during 1971 that was spent unemployed.[48]

The variables included to explain the incidence and extent of joblessness are nearly identical to those used in the earnings and occupational status models described above. The principal exceptions are (1) the addition of a dichotomous variable designating those veterans discharged from the armed forces during 1971 and (2) deletion of the analysis based on a comparison of military and civilian occupations. The new variable is added to the model because having been recently discharged may be expected to increase the likelihood of joblessness by virtue of the minimal exercise of reemployment rights[49] and by virtue of the almost automatic eligibility for unemployment compensation with minimal requirements to search. It is also expected that recency of discharge would artificially increase the proportion of labor force time spent unemployed, because it increases the numerator (weeks unemployed) and decreases the denominator (weeks in civilian labor force) of the ratio.[50] The categorization of veterans according to the occupation comparison is deleted because of its nonapplicability to some veterans--i.e., those who had held no postservice job by the time of the 1971 survey. The universe for the analysis of unemployment consists of 19- to 29-year-old men who were not enrolled in school at the time of the 1971 survey.

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[46] Obviously, all nonveterans receive a value of zero on the latter variable.

[47] See footnote 46.

[48] The first is a dummy variable coded "1" if the respondent experienced any full weeks of unemployment and "0" otherwise. The second is the ratio of weeks unemployed in 1971 to weeks in the civilian labor force in 1971.

[49] U.S. Senate (1972), pp. 64-65.

Finally, as a supplement to analyzing the objective consequences of military service on subsequent civilian labor market experiences, the data provide the opportunity to examine the veterans' perceptions of these consequences. All veterans were asked in 1971 whether they believed that their service in the armed forces had helped or hurt their (civilian) careers. Overall, slightly more than one-half of them reported that it had helped their careers, one-sixth reported a deleterious effect, and the remaining three-tenths felt that their military experience had no impact on their subsequent experiences in the civilian labor market. As might be expected, these response patterns were far from uniform across all types of veterans. For example, ex-Marines, veterans with very brief periods of service, and those who received no training with civilian applicability seem relatively less likely to report positive effects of their military service (Appendix Table 6A.2). Similarly, college graduates, draftees, and those discharged in 1971 seem relatively more likely to report negative effects.

In order to examine more carefully the sources of variation in the reported effects of the military service, we performed MCA's using two dichotomous dependent variables. The first distinguished those who perceived positive effects from all others, and the second differentiated those who reported negative effects from all others. Using the identical set of explanatory variables permits us to identify the net distribution of responses to the question for each category of young veterans, where "net" means "adjusted for the variation in the response due to other characteristics." Moreover, it enables us to demonstrate the nonsymmetric nature of the responses in the sense that a given characteristic may induce an above-average positive response rate but not a below-average negative response rate.

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[50] There is also reason to believe that the diligence of the Census interviewers contributes to an artificially high proportion of a veteran's time spent in unemployment. That is, if it was learned that a respondent was unavailable at the initial attempt to contact him but that he would be discharged from the military service before the close of the survey period, the interview was probably conducted. Thus, the total amount of time in the civilian population for such a veteran will be minimal (less than two months), which artificially inflates the proportion of time unemployed should he seek work and/or apply for unemployment compensation.

Some of the explanatory variables included in these analyses are similar to those used in the analyses of earnings, occupational status, and unemployment. However, because the term "career" is somewhat vague, the hypotheses underlying these variables are somewhat more tentative than in the earlier analyses, and may best be viewed as exploratory. For example, it is of interest to know whether the perceived impact of the military on subsequent civilian careers varies with the level of human capital possessed by the veteran in order to assist in evaluating military service as a source of producing human capital. Especially in light of programs such as Project 100,000 and Project Transition, it seems reasonable to expect that the least well educated young veterans had the most to gain from military service, if only in terms of skill acquisition. Thus, the amount of schooling completed by the respondent prior to entering the military is included in the analysis. Finally, for similar reasons the following are included in the MCA's: whether the respondent's military and post-service jobs were in the same major occupation group, whether the respondent returned to school after being discharged from the service, and a comparison between the respondent's health status prior to and subsequent to military service.

Since the nature of a veteran's experience during his tour of military duty may be expected to influence his perception of its impact on his postservice career, some of the variables are designed to represent this set of factors, viz., method of entry to the armed forces, duration of military service, type of training received while in the military service, branch of the service, and date of discharge. The hypotheses underlying this latter set of variables merit brief explanation. While undoubtedly there was some draft-induced enlistment, it is anticipated that those who served involuntarily would be less likely to exhibit positive reactions and more likely to express negative reactions to their military experience. Similarly, those who served for longer periods of time are, on average, more likely to have done so voluntarily and, therefore, are expected to be more positive about the impact of their service. Likewise, it is anticipated that those who received training with some potential transferability to civilian jobs would be relatively more positive about the effect of their military experience.

The branch of the armed forces in which a young man served is included for exploratory purposes, and no a priori hypotheses are offered. While gross differences in the response patterns of Army, Navy, Air Force and Marine veterans are observed, they may merely reflect differences in voluntariness of service and/or differences in training among the several branches of the armed forces. The date of discharge is included for three reasons. First, the question about the impact of military service was asked of all veterans in 1971 (rather than, say, at the first interview subsequent to discharge), and it may be that the perceived impact of military service is stronger the more recent the tour of duty. Second, veterans who returned to civilian life in 1970 or 1971 entered a much less buoyant economy than was true of those who were discharged in the middle or late 1960's. Finally, growing societal disenchantment with U.S. military involvement in Vietnam over the period under study probably made a difference in the general acceptance of the veteran according to when he reentered the civilian labor force.

Results All in all, the results indicate that the effect of military service on subsequent civilian earnings and occupational status is neither unambiguously positive nor negative (Table 6.2). Since the effect does apparently differ substantially between the races, the findings are discussed separately for whites and blacks.

For young white men, all of the variables associated with having served in the armed forces exhibit positive associations with current hourly earnings, but the only effects that attain statistical significance (at the 5 percent level) are those associated with (1) returning to school after being discharged and (2) doing the same kind of work after leaving the service as was done while in military service.[51] While each month of active military duty seems to increase current wages (presumably because the variable represents general work experience), the impact is miniscule (about 0.2¢/hour/month of service) and not statistically significant ($t < 1.00$). Indeed, the size of this coefficient, in relation to the coefficient for civilian work experience, may be interpreted to mean that, on average, the time spent in the military is detrimental to later success in the labor market. To be more specific, the regression results imply that the return per year of military service was only about 2.5¢/hour in contrast to the return to a year of civilian work experience of more than 11¢/hour. Hence, for white veterans it seems that only those young men who availed themselves of the subsidy to pursue postservice additional schooling received monetary payoffs from their military experience.

In contrast, the impact of armed forces service is more ambiguous among young black men. First of all, there are too few (i.e., fewer than 10) respondents who returned to school after leaving the armed forces to have confidence in the estimated effect of this behavior on civilian wages. Second, none of the variables identifying veterans attains statistical significance in any version of the equation. Finally, the estimated value of a year of military service (about

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[51] It should be noted that the latter effect may represent either (1) the impact of specific types of occupational training in the military or (2) the identification of young men who held the same (high-paying) occupations before, during, and after military service.

Table 6.2 Net[a] Effects of Selected Aspects of Military Service Experience on Civilian Hourly Wage and Occupational Status, 1971, by Race

Version of the equation[b] and aspect of military service experience	Hourly wage (dollars/hour)		Occupational status (Duncan Index)	
	WHITES	BLACKS	WHITES	BLACKS
Version I				
Recipient of training in the military--Army	0.11	-0.15	-1.3	-1.2
Recipient of training in the military--other branch	0.18	@	-1.8	@
Nonrecipient of training in the military--Army[c]	0.30*	-0.16	-0.7	-4.9
Nonrecipient of training in the military--other branch[c]	0.10	0.13	-3.2	-3.3
Returnee to school after military discharge	0.85**	@	11.8**	@
Version II				
Military and 1971 occupations--same	0.51**	@	1.8	@
Military and 1971 occupations--different	0.12	0.03	-2.4	-3.6
Returnee to school after military discharge	0.82**	@	11.6**	@
Version III				
Per month of active military duty	0.002	0.007	-0.1	0.0+
Returnee to school after military discharge	0.89**	@	11.7**	@

SOURCE: Appendix Tables 6A.3 through 6A.5.

UNIVERSE: Employed respondents 19-29 years of age in 1971 who were not discharged from the armed forces prior to 1964.

a The effects are net in the sense that other variables that determine wages (occupational status) are held constant by the regression, including those variables associated with being a veteran.

b Each version of the equation was estimated separately and contained only those variables characterizing veterans that are shown. For example, Version I contains interactive dummy variables for veteran status, receipt of military training and branch of service along with a dummy variable indicating the return to school, but it excludes the occupation comparison variables and the duration of service variable.

c Strictly speaking, these veterans received only basic training and/or training only in a military (combat) job.

@ Coefficient based on fewer than 25 respondents.

0+ Indicates nonzero value rounded to zero.

* Statistically significant at .10 level. ** Statistically significant at .05 level.

8¢/hour) lies between the estimated value of a year of civilian work experience prior to the military (about 2¢/hour) and that of a year of civilian work experience after military service (about 14¢/hour). Nevertheless, the coefficient of the active duty variable (MILDURTOT71) does not achieve significance at conventional levels. If we accept the coefficient at face value (i.e., ignore the t-ratio of 1.24), then the results imply that, whether it represents the acquisition of cognitive skills or productive work habits, the time a young black man spent in the armed forces pays off in increased civilian earnings.

Contrary to our expectations, there is no evidence for either racial group that training received in the armed forces that is potentially applicable to civilian jobs yields a demonstrable, significant return.[52] With one exception, all of the preceding inferences about hourly earnings apply equally well to the analysis of occupational status and, therefore, do not merit repetition. The exception is that there is no evidence that black veterans received any payoff to their military service in terms of occupational status.

Turning to the impact of being a veteran on unemployment experience in 1971, the answer is rather more straightforward. Although it is more systematic among whites, the evidence for both racial groups indicates that young veterans were significantly more likely than their nonveteran counterparts to suffer unemployment during 1971 (Table 6.3). Inexplicably, this conclusion does not apply to black young men who were veterans of the Army infantry. Among white veterans this effect was somewhat attenuated for those who returned to school. Partly in contrast to our expectations, the veterans discharged in 1971 did not have significantly higher likelihoods of being unemployed, but they did spend significantly larger proportions of their labor force time without jobs. Examination of the full regression results also reveals that, ceteris paribus, the differential unemployment experience of veterans eventually disappears (Appendix Tables 6A.6 and 6A.7). The variable measuring the amount of postservice work experience (EXPERPOST) has a strong negative coefficient, meaning that a veteran's susceptibility to unemployment in 1971 was lower if he had been discharged in, say, 1968 than in 1970. Thus, it seems that time in reacclimation to the civilian labor market is the principal source of a "solution" to the unemployment "problem" of veterans.

Turning finally to the analysis of the employed veterans' perceptions of the effect of their military service, the results of the MCA's provide support for some of the hypotheses (Table 6.4). Since the

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[52] See footnote 51. Also, it is noteworthy that approximately three-fifths of the veterans in our sample report having received training other than basic or combat training. This is in close accord with published data. See U.S. Senate (1971), p. 140, Table 37.

Table 6.3 Net[a] Effects of Selected Aspects of Military Service Experience on Unemployment Experience 1971, by Race

(Effects shown in percentage points)

Version of the equation[b] and aspect of military service experience	Probability of being unemployed 1971		Proportion of time in labor force in 1971 spent unemployed	
	WHITES	BLACKS	WHITES	BLACKS
Version I				
Recipient of training in military--Army	11.6**	25.8**	5.1**	7.1
Recipient of training in military--other branch	13.7**	@	3.7	@
Nonrecipient of training in military-Army[c]	11.4**	-1.9	0.9	-5.6
Nonrecipient of training in military-other branch[c]	14.9**	28.6**	4.3**	-5.6*
Returnee to school after military discharge	-9.2	@	-0.2	@
Discharged in 1971	-9.3	-23.9	10.8**	3.8
Version II				
Per month of active military duty	0.4**	0.6**	0.2**	0.2
Returnee to school after military discharge	-7.2	@	0.7	@
Discharged in 1971	-8.6	-10.3	10.2**	6.5

SOURCE: Appendix Tables 6A.6 and 6A.7.

UNIVERSE: Respondents 19-29 years of age and interviewed in 1971 who were not discharged from the armed forces prior to 1964 and who spent at least one week in the labor force in 1971.

a The effects are net in the sense that other determinants of the likelihood of being unemployed are held constant by the regression, including those variables associated with being a veteran.

b, c See footnotes b and c, Table 6.2.

@ Coefficient based on fewer than 25 respondents.

* Statistically significant at .10 level.

** Statistically significant at .05 level.

Table 6.4 Perceived Effects of Military Service on Civilian Careers: MCA Results

(F-ratios in parentheses)

Characteristic	WHITES			BLACKS		
	Number of respondents	Adjusted percent reporting that military service was^a		Number of respondents	Adjusted percent reporting that military service was^a	
		Positive	Negative		Positive	Negative
Method of entry to service		(0.76)	(2.69)		(1.68)	(1.07)
Drafted	152	50.7	21.5*	75	53.8	15.5
Enlisted	303	52.7	14.1	50	54.8	9.8
Other^b	66	59.3	11.8	3	@	@
Branch of service		(0.30)	(0.64)		(2.63)	(2.67)
Navy, Coast Guard	95	52.4	14.7	8	@	@
Army	317	54.4	16.9	96	57.1	15.2
Air Force	58	50.5	10.5	11	@	@
Marines	51	48.4	18.4	13	@	@
Duration of service		(15.81)$^{\#}$	(5.54)$^{\#}$		(6.62)$^{\#}$	(1.94)
0-12 months	87	20.8**	24.4**	15	@	@
13-24 months	234	60.9**	10.0**	76	41.0**	10.0
25-36 months	95	55.2	14.3	25	82.8**	10.6
37 months or more	105	60.1*	23.6*	12	@	@
Date of discharge		(0.76)	(7.12)$^{\#}$		(0.69)	(0.90)
1971	101	49.3	27.6**	33	56.9	20.3
1970	117	57.6	18.8	41	63.3	9.4
1968-1969	109	49.7	16.0	31	49.1	16.6
1967 or earlier	194	54.0	7.9**	23	50.3	8.1
Training in military		(9.18)$^{\#}$	(0.53)		(0.38)	(0.17)
None or military only	306	47.4**	15.0	104	53.9	13.6
Some training	215	60.3**	17.3	24	59.9	10.7
Military and post service occupation		(0.56)	(0.14)		(0.26)	(0.28)
Same	104	49.8	14.8	11	@	@
Different	417	53.8	16.2	117	55.9	12.4
Health condition in 1971		(1.99)	(1.56)		(0.75)	(0.44)
No health limitation	479	54.6**	15.2	120	56.3	12.4
Limitation, began before service	15	@	@	2	@	@
Limitation, began during service	16	@	@	6	@	@
Limitation, began after service	11	@	@	0	@	@
Education prior to service		(1.36)	(3.99)$^{\#}$		(0.54)	(1.93)
0-8	16	@	@	4	@	@
9-11	91	47.8	10.9*	30	57.3	19.9
12	280	53.5	14.8	77	56.7	8.1*
13-15	92	59.2	16.8	16	@	@
16-18	42	42.2*	34.6**	1	@	@
Returned to school post service		(1.72)	(0.51)		(5.67)$^{\#}$	(0.56)
No	407	51.5	16.6	114	58.6	13.7
Yes	114	58.1	13.9	14	@	@
Grand mean		53.0	16.0		55.3	12.9
$\overline{R}^2$		.07	.06		.14	.00
F ratio		2.97	2.60		2.03	0.84
Total number of respondents	521			128		

(Table continued on next page.)

Table 6.4 Continued

UNIVERSE: Respondents who were Vietnam era veterans and who were employed in 1971.

a The percentages are adjusted by the multiple regression technique of holding constant all other variables shown in the table. For unadjusted percentages see Table 6A.2.

b Includes those who entered the armed forces through ROTC or OCS and those whose method of entry was not ascertained.

@ Adjusted percentage not shown where category contains fewer than 20 respondents.

Significant at .05 level.

* Significantly different from the grand mean at .10 level.

** Significantly different from the grand mean at .05 level.

results for whites and blacks differ, they are discussed separately. Voluntariness of participation in the armed forces does exhibit a positive relationship with the self-reported value of that participation. Relative to enlistees, draftees were less likely to report a positive career effect and more likely to report a negative career effect, although only the latter effect achieves statistical significance (at $\alpha \leq .10$). Finding any statistical significance for this variable is especially noteworthy because branch of service and length of tour of duty are controlled for, and because some of the enlistees were of the draft-induced variety, making their service less than entirely voluntary. Also found to exhibit significantly above-average positive reports of their military experience were young white veterans who received training in the armed forces and those whose tours of duty lasted either one to two years or more than three years.[53]

The long-service group of white veterans also forcefully demonstrates the nonsymmetric nature of the perceptions being studied, in that it also had a significantly higher-than-average rate of reporting negative effects of military service on civilian careers. Thus, long-service veterans were the least likely to express ambivalence about the impact of their military experience on their post-discharge work lives, and those who served for one year or less were the most likely (55 percent) to report no effect on their civilian careers.

Consistent with our expectations, the date of discharge bears a strong monotonic association with the probability that a young white veteran would report a detrimental effect of his military service, i.e., the probability is much higher the more recently he was discharged. This may reflect one or more of several forces. First, the recency of negative military experiences may induce strong negative reports about anything related to those experiences. Second, the loss of a few years of civilian labor market exposure may have been more of an impairment in the relatively depressed labor market of 1971 than in the tighter labor markets of the middle 1960's.

Contrary to expectations, the measures comparing pre- and post-service characteristics do not exhibit significant relationships with the likelihood of reporting either positive or negative effects of military service. Although the differences between those who did and those who did not return to school are in the anticipated direction, they do not achieve statistical significance. There is an apparent discrepancy between these findings and the earlier conclusion that white veterans who returned to school enjoyed higher earnings and better jobs as compared to nonveterans and veterans who did not go back to school. The discrepancy may be explainable if those who returned to school would have continued their educations in any event and, thus, perceived the military experience as an interruption in their prior plans to achieve higher earnings and status. While this is purely speculative, it is consistent with the following facts: (1) there is substantial collinearity between level of education prior to military service and the likelihood of returning to school after being discharged and (2) college graduates had significantly below-average reports of positive effects and above-average reports of negative effects of military service.

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[53] It should perhaps be noted that a regression analysis using occupational status as the dependent variable indicates a significantly lower Duncan Index score for white veterans who reported that the military service was a detriment to their careers (Table 6A.8).

In general, it is almost impossible to draw any confident conclusions from the MCA analyses of the self reports by young black veterans. In the main this probably is due to the small number of respondents who comprise many of the categories used in the analysis. While the associations between perceived effect of military service and (a) voluntariness of participation and (b) receipt of training in the armed forces are the same for white and black veterans, for the latter group they do not attain statistical significance. Comparable to the findings for whites, there is a strong significant positive relationship between duration of active duty and the likelihood of reporting a positive effect. However, the categories in which this relationship manifests itself are different for blacks than for whites.

Finally, when all is said and done, young black veterans and young white veterans do not diverge systematically in their views of the impact of their military service on their subsequent civilian work experiences.[54] The small intercolor differences of blacks perceiving both more positive and less negative effects is not uniform across all categories of the veterans. For example, among those who served one to two years and among those discharged prior to 1967, white veterans were more likely than black veterans to report a positive effect of military service. Similarly, black high school dropouts were noticeably more likely than their white counterparts to report a negative effect.

IV SUMMARY AND CONCLUSIONS

This study was conducted upon the premise that the experiences of Vietnam era veterans are integral to understanding the transitions by young men from adolescence to adulthood and from school to work during the late 1960's. As a starting point we analyzed the correlates of the likelihood of serving in the U.S. Armed Forces during the Vietnam era (1964-1971). In doing so the study departed substantially from earlier research that focused almost exclusively upon the decision by a young man to enlist in the military service. The analysis confirmed many intuitive answers to the question of who served, including the following: (1) young men with health problems and/or dependents were less likely to serve and (2) veterans were less likely to come from the ranks of both the least and the most capable young men than from the group with average educational achievement and mental ability.

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[54] Preliminary runs of the analysis that pooled the data across the races and included a dichotomous variable for race indicated that the latter variable was not statistically significant.

Importantly, the findings also demonstrate that, while socioeconomic background obviously indirectly influenced who served (i.e., through measured mental ability and educational attainment), it exercised no independent direct effect once these factors were taken into account. Equally important is the finding that there was no significant racial difference in the likelihood of serving in the armed forces during the Vietnam era. Finally, the results indicate regional/racial differences in the probability of entering the armed forces that may be interpreted as evidence that the military was used as an avenue of escape from racial discrimination in the civilian labor market even during the Vietnam conflict.

The second objective of the study was to examine the effects of being a veteran on civilian labor market experiences. In order to consider a broad range of such experiences we performed regression analyses of hourly earnings, occupational status and unemployment during 1971. The regressions were designed to isolate those specific characteristics of veterans that were hypothesized to affect labor market achievements, while simultaneously controlling for other determinants of those achievements.

When earnings or status is the criterion, young white veterans were found to have paid a substantial cost for their military service in terms of foregone civilian work experience. That is, the labor market apparently did not evaluate time in the armed forces as equivalent to time in civilian work in terms of producing human capital. The exceptions to this generalization were the minorities of young white veterans whose military and subsequent civilian jobs were in the same occupational group and those who took advantage of the G.I. Bill to return to school. For young blacks the interpretation of the results is less straightforward. None of the variables identifying veterans attain statistical significance at conventional levels. However, the estimated earnings (but not status) payoff to each year on active military duty exceeded the payoff to each year of civilian work experience prior to service. For neither race group do the results provide clear support for the hypothesis of a significant carryover of military training into civilian jobs.

The most succinct summary of the results of analyzing unemployment among young men is that while soon after their discharge veterans evidently experience significantly more joblessness than their nonveteran counterparts, this disadvantage disappears with time. That is, reacclimation to the civilian labor market over time appears to be the "solution" to the unemployment "problem" of veterans.

Analysis of veterans' perceptions of the effect of military service on their civilian careers revealed rather more positive attitudes than would be suggested by the foregoing analysis of veteran/nonveteran differences in labor market achievements. More than half of the employed veterans reported that the armed forces experience had helped their careers. While we found no objective evidence to support it, this positive attitude was relatively more common among those who had received training while in the military service. Some of this dissonance may be attributable to ambiguity in the meaning of "career" and/or to a longer time horizon associated with the subjective evaluation than with our evaluation based on 1971 cross-sectional analyses. Furthermore, some consistency is evident. First, the results indicated that veterans who reported that military service was a detriment to their careers had significantly lower occupational status (Appendix Table 6A.8). Also, reports of negative effects declined with the length of time since leaving the armed forces, and this is consistent with the finding that (some) labor market disadvantages of veterans disappear with time. Finally, combining the analyses of objective and subjective assessments of the impact of military service leads us to conclude that there may have been a slightly greater payoff to the young black veterans of the Vietnam era than to their white counterparts.

REFERENCES

Altman, S.H. and Barro, R.J. "Model of Officer Supply Under Draft and No Draft Conditions." Studies Prepared for the President's Commission on an All-Volunteer Armed Force. Washington: U.S. Government Printing Office, 1970, p. II-10.

Beusse, W.E. The Impact of Military Service on Low Aptitude Men. Washington: Manpower and Reserve Affairs Office of the Assistant Secretary of Defense, 1974.

Browning, H.L.; Lopreato, S.C.; and Poston, D.L., Jr. "Income and Veteran Status: Variations among Mexican Americans, Blacks, and Anglos." American Sociological Review 38 (February 1973): 74-85.

Cook, A.A. "Supply of Air Force Volunteers." Studies Prepared for the President's Commission on an All-Volunteer Armed Force. Washington: U.S. Government Printing Office, 1970, p. II-4.

Cook, A.A. and White, J.P. "Estimating the Quality of Airman Recruits." Studies Prepared for the President's Commission on an All-Volunteer Armed Force. Washington: U.S. Government Printing Office, 1970, p. II-5.

Cutright, P. Achievement, Mobility and the Draft: Their Impact on the Earnings of Men. Washington: U.S. Department of Health, Education and Welfare, SSA Office of Research and Statistics, 1973.

Fechter, A. "Impact of Pay and Draft Policy on Army Enlistment Behavior." Studies Prepared for the President's Commission on an All-Volunteer Armed Force. Washington: U.S. Government Printing Office, 1970, p. II-3.

Fendrich, J.M. and Axelson, L.J. "Marital Status and Political Alienation among Black Veterans." American Journal of Sociology 77 (1971): 245-61.

Gilman, H.J. "Supply of Volunteers to the Military Services." Studies Prepared for the President's Commission on an All-Volunteer Armed Force. Washington: U.S. Government Printing Office, 1970, p. II-1.

Helmer, J. Bringing the War Home: The American Soldier in Vietnam and After. New York: The Free Press, 1974.

Johnston, J. and Bachman, J.G. Youth in Transition. Vol. 5. Ann Arbor: Institute for Social Research, University of Michigan, 1972.

2 2

Jurkowitz, E.L. "An Estimation of the Military Contribution to Human Capital." Ph.D. dissertation, Columbia University, 1968.

Karpinos, B.D. "The Mental Qualifications of American Youth for Military Service and its Relationship to Educational Attainment." *1966 Social Statistics Section, Proceedings of the American Statistical Association*. pp. 92-111.

Landinsky, J. *A Review Article: Vietnam, the Veterans, and the Veterans Administration*. Madison: Institute for Research on Poverty Discussion Papers, University of Wisconsin, 1975.

Lifton, R.J. *Home from the War*. New York: Simon and Shuster, 1973.

Manpower Magazine. "Mobilizing Jobs for Veterans." (April 1971): 9-13.

Michelotti, K. and Gover, K.R. "The Employment Situation of Vietnam Era Veterans." *Monthly Labor Review* 95 (December 1972): 7-15.

National Advisory Commission on Selective Service. *In Pursuit of Equity: Who Serves When Not All Serve?* Washington: U.S. Government Printing Office, 1967.

O'Neill, Ross and Warner, Draft: "The Effects of Military Training and G.I. Bill Training on Civilian Earnings: Some Preliminary Results." 1976.

Polner, M. *No Victory Parades*. New York: Holt, Rinehart and Winston, 1971.

Showell, C.H. "Labor Market Experiences of Vietnam-Era Veterans in Franklin County, Ohio." Ph.D. dissertation, The Ohio State University, 1975.

Starr, P. *The Discarded Army*. New York: Charterhouse, 1973.

U.S. Department of Commerce. *Statistical Abstract of the United States 1960-1972*. Bureau of the Census.

U.S. Department of Defense. *Selected Manpower Statistics*. OASD (Comptroller) Directorate for Information Operations and Control. June 1976.

U.S. Senate, *Hearings Before the Subcommittee on Readjustment Education and Employment of the Committee on Veterans' Affairs*. 92nd. Congress. Senate Committee on Veterans' Affairs, 1971.

________. "A Study of the Problems Facing Vietnam Era Veterans on Their Readjustment to Civilian Life." Senate Committee Print #7, Committee on Veterans' Affairs. Washington: U.S. Government Printing Office, 1972.

________. Source Material on the Vietnam Era Veteran. Committee on Veterans' Affairs. Washington: U.S. Government Printing Office, 1972.

Useem, M. Conscription, Protest and Social Conflict. New York: John Wiley and Sons, 1973.

Waldman, E. "Viet Nam War Veterans--Transition to Civilian Life." Monthly Labor Review 93 (November 1970): 21-29.

Weinstein, P.A. Labor Market Activity of Veterans: Some Aspects of Military Spillover. Washington· U.S. Department of Health, Education and Welfare, 1969.

Werner, W.E. and Radcliff, J.A. "The Vietnam Vets' Battle--Unemployment," Journal of Employment Counseling 10 (December 1973): 187-91.

Wool, H. and Flyer, E.S. "Project 100,000." In P.B. Doeringer (ed.), Programs to Employ the Disadvantaged. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1969.

CHAPTER VII

CONCLUSIONS[*]

The need for a summary chapter to this volume probably is open to question. Each of the previous chapters contains a concluding section that summarizes the results and discusses their policy implications. There is no simple way to synthesize these into a "grand finale," for although all of the papers address issues relevant to the pre- and early labor market experiences of young men, they do not exhaust the many links in the chain of the transition from adolescence to adulthood. Nevertheless, there does seem to be some merit in attempting to integrate some of the findings of the several analyses into broad generalizations that may have implications for public policy.

While the hallmark of a young man's labor market activity as he emerges from adolescence into adulthood is volatility, our studies show that much of this volatility is functional; that is, it represents a variety of types of useful adaptation. It has been shown, for example, that as young men progress through high school and the first few years thereafter, those who began with incongruent, unrealistic, or pessimistically held educational and occupational goals tend to modify them.[1] Also, the early years in the labor market, at least among many young whites, are characterized by growth in earnings, occupational status, and skill level as the youths adapt to the world of work and gain general and specific work experience.[2] This is clearly in evidence in the substantial occupational upgrading that occurs during approximately the first half-decade following labor market entrance; between one-third and three-fifths of the young men advanced in occupational status during this period of time.[3] Further evidence of adaptive mechanisms in the labor market behavior of young men may be seen in the reduced susceptibility to unemployment of those who have the foresight to line up new jobs before leaving an employer, a foresight which itself appears to accompany adaptation to marital and family responsibilities.[4]

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[*] This chapter was written by Andrew I. Kohen.

[1] p. 46. This and all subsequent page references are to this volume.

[2] p. 66.

[3] Table 4.4.

However, the studies in this volume also make it clear that, despite the adaptability of young men during their early years of labor market participation, the mere passage of time does not solve all of their labor market problems. Our confirmation of the independent effect of education on many criteria of success, including wages,[5] occupational status,[6] and employment stability,[7] attests to the continuing need for public policy support of formal schooling. Furthermore, in contrast to some recent estimates, our analyses indicate no decline (by 1971) in the real earnings advantage accruing to graduation from college.[8] Nevertheless, our research has yielded almost no confident generalizations about the effects of different kinds of education. There is no evidence, for example, that graduates in terms of starting rates of pay,[9] nor do the measures of high school quality, college quality, and educational "credentials" exhibit significant impacts on earnings.[10] While these findings are less than definitive, they suggest the need for greater understanding about the precise way in which schooling affects early labor market achievement and adaptation, perhaps to be gained through experimental research designs.[11]

The studies in this volume also provide empirical support for the widely accepted belief that the extent of a youth's information about the world of work is positively linked to measures of his success in the labor market.[12] Both the earnings and the prestige of a youth's first postschool job are seen to be positively and significantly related to the extent of his occupational information as measured prior to leaving school. This relationship also prevails when the success criteria refer to the 1971 jobs of those with and without college training.[13] Likewise, a young man's stock of information has been shown to exert a positive influence on the likelihood and magnitude of his occupational advancement.[14] Previous research on this measure of occupational information has already made clear ". . . that most youth are far from having the kind of knowledge that would permit them to make occupational choices in the manner suggested by the utility-maximizing model of conventional economic theory."[15] Hence, public policy efforts to generate and disseminate more labor market (occupational) information to all youth should continue, and should be directed more broadly toward those youth in the lower socioeconomic strata, who are relatively disadvantaged in this respect.

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[4] pp. 144, 148.

[5] pp. 11, 66, 177.

[6] Table 3.2, p. 107.

[7] pp. 10, 151.

[8] p. 79.

[9] p. 71. See also Grasso (1976).

[10] p. 71. See also Kohen (1973)

[11] This suggestion orginally appeared in Parnes (1976).

[12] For earlier evidence see Parnes and Kohen (1975).

Yet another conclusion from some of the preceding chapters is the special volunerability of young male workers to downturns in the economy at large. Not only does the incidence of unemployment increase,[16] but even those who remain employed seem to experience a reduced rate of growth in real earnings.[17] Thus, it is clear that an important policy for ameliorating the set of labor market problems faced by young men is maintenance of a high level of aggregate demand for labor.

Because of the abandonment of the military draft, our findings concerning Vietnam era veterans are not immediately relevant to current policy issues. Nevertheless, since some of the findings of that study differed substantially from those of earlier research, a brief resume seems to be in order. Beyond reaffirming some intuitive answers about who served in the military forces during this era, the results support the belief that the military was used as an avenue of escape from racial discrimination in the civilian labor market.[18] Additionally, analyses of earnings and occupational status yield the inference that young white veterans paid a considerable cost for their military service (in terms of foregone civilian work experience) that was recovered only if they took advantage of the G.I. Bill to return to school.[19] In contrast, there is evidence of a positive, albeit small, net payoff in terms of civilian earnings for young black veterans.[20] Perhaps most importantly, the study produces no clear evidence for either racial group of a positive effect of training received during military service on subsequent success in the civilian labor market. This suggests the need for some reevaluation of training programs in the various branches of the armed forces if they are to fulfill their potential contribution to subsequent civilian careers.

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[13] Table 3.2 and Appendix Tables 3A.5 and 3A.7.

[14] pp. 108, 121.

[15] Parnes (1976), p. 37.

[16] pp. 10, 11, 131.

[17] p. 85, Appendix Table 1A.14.

Finally, the studies in this volume have highlighted the substantial differences in the labor market experiences of black and white young men. The considerable racial inequality that we have found in most measures of labor market success--e.g., earnings, occupational status, and unemployment--exceeds what can be accounted for by racial differentials in human capital. More specifically, it has been shown that schooling imparts a smaller advantage to blacks than to whites in obtaining high status jobs.[21] Also, among young men whose schooling ended prior to college, whites receive larger wage payoffs to schooling and work experience than do blacks.[22] In addition, there is strong evidence that discriminatory treatment in the labor market inhibits the distance of occupational advancement by black men subsequent to their first postschool jobs[23] and also during the more restricted time period between 1966 and 1971.[24] Finally, salutary effects of work experience on the risk and duration of unemployment are found for young whites but not for blacks.[25]

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[18] p. 169.

[19] p. 177.

[20] p. 179.

[21] p. 84 and Table 3.2.

[22] p. 66.

[23] p. 113.

[24] p. 121.

[25] p. 148.

Despite some modest improvements in the position of small groups of young black men (e.g., those employed at all five survey dates) relative to their white counterparts,[26] the ineluctable conclusion to be drawn from this set of studies is that governmental efforts to combat racial discrimination in the labor market have been less than completely successful. Policy makers must therefore resist the complacency that might arise from some research that has extolled the 1960's as a period of growing racial economic equality. Our results show that much remains to be done, at least so far as young male workers are concerned.

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[26] p. 11.

REFERENCES

Grasso, J.T. "The Contributions of Vocational Education, Training, and Work Experience to the Early Career Achievements of Young Men." Mimeographed. Columbus: Center for Human Resource Research, The Ohio State University, 1975.

Kohen, A.I. "Determinants of Early Labor Market Success Among Young Men: Race, Ability, Quantity and Quality of Schooling." Mimeographed. Columbus: Center for Human Resource Research, The Ohio State University, 1975.

Parnes, H.S. "The National Longitudinal Surveys: Lessons for Human Resource Policy." Mimeographed. Columbus: Center for Human Resource Research, The Ohio State University, 1976.

Parnes, H.S., and Kohen, A.I. "Occupational Information and Labor Market Status· The Case of Young Men." Journal of Human Resources 10 (Winter 1975):44-55.

APPENDIX A

SUPPLEMENTARY TABLES

Tables in this Appendix have been cited at relevant points in the text. The initial number of each table indicates the chapter to which it relates.

In these and all other tables in this volume, counts of individuals are shown in terms of number of sample cases rather than weighted population estimates. However, all calculations (percentages, means, regressions) are based on weighted observations, with the exception of those in Tables 1A.1, 1A.2, 5A.2, and 5.9.

In all percentage distributions, cases for which no information was obtained are excluded from the totals. Percentage distributions may not add up to 100 percent because of rounding.

For a definition of variables shown in the tables, see Glossary in Appendix B.

Table 1A.1 Noninterview Rate, 1971 Survey, by Noninterview Reason and Selected Characteristics of Respondents in 1966

1966 Characteristic	Number of respondents	Number eligible for interview 1971[a]	Noninterview rate: Refusal	Noninterview rate: Unable to locate[b]	Noninterview rate: Total[c]	In armed forces	Total attrition (percent)
All respondents[d]	5,225	4,847	5	3	14	10	24
White	3,734	3,484	6	2	12	9	21
Black	1,438	1,319	5	6	20	11	31
Student							
White	2,334	2,207	4	2	10	14	23
Black	834	780	5	7	19	17	35
Nonstudent							
White	1,400	1,277	7	2	14	2	17
Black	604	539	4	5	23	3	26
Student, 20-24 years old							
White	326	305	5	2	10	5	15
Black	39	36	5	10	18	10	28
Student, in elementary, jr. high							
White	73	65	7	3	18	19	37
Black	99	95	2	5	14	10	24
Student, low SES[e]							
White	219	200	8	4	16	10	26
Black	334	322	1	8	16	15	31
Student, medium SES[e]							
White	1,136	1,082	4	2	9	17	26
Black	341	317	8	7	20	20	41
Student, high SES[e]							
White	910	862	4	2	9	11	20
Black	51	43	12	4	24	14	37
Resided in central city of SMSA							
White	883	813	5	3	14	9	22
Black	660	583	8	6	25	11	36
Resided outside central city of SMSA							
White	2,847	2,667	6	2	11	9	20
Black	776	734	2	6	17	11	27
Resided in South							
White	1,133	1,064	6	3	12	9	21
Black	1,008	954	2	6	16	12	29
Resided in non-South							
White	2,601	2,419	6	2	11	10	21
Black	430	365	11	6	30	7	37
Nonstudent, married, wife present							
White	644	598	7	2	12	0^+	12
Black	183	161	5	4	22	0^+	23
Nonstudent, high school dropout							
White	516	447	9	4	22	2	24
Black	388	339	4	6	27	2	29
Nonstudent, high school and some college							
White	798	748	6	2	11	3	13
Black	208	193	6	4	15	4	20
Nonstudent, college graduate							
White	86	82	2	0	6	0	6
Black	8	7	@	@	@	@	@

(Table continued on next page.)

Table 1A.1 Continued

1966 Characteristic	Number of respondents	Number eligible for interview 1971[a]	Noninterview rate			In armed forces	Total attrition (percent)
			Refusal	Unable to locate[b]	Total[c]		
Nonstudent, low SES[e]							
White	308	278	7	3	18	4	22
Black	308	279	3	5	20	2	22
Nonstudent, high SES[e]							
White	246	230	6	2	10	2	13
Black	18	16	@	@	@	@	@

UNIVERSE: All respondents in the initial (1966) sample.

a A respondent was ineligible for interview in 1971 if he was deceased, had refused to participate at any prior survey, or had not been interviewed at two consecutive prior interviews for reasons other than being in the armed forces.

b Includes a small number of cases in the civilian population in which the respondent was inaccessible to the interviewer even though his location was ascertained.

c Includes those not interviewed because they were deceased, temporarily absent from the home (for nonmilitary reasons), or institutionalized.

d Includes a small number of nonwhites other than Negroes.

e SES is measured by an index whose mean and standard deviation are 10.0 and 3.0, respectively. The designations of low (high) is defined as being at least .5 standard deviations below (above) the mean. For more detail, see the Glossary.

@ Percentage not shown where base contains fewer than 25 respondents.

0^+ Indicates nonzero value rounded to zero.

Table 1A.2 Interview Status 1971, by Interview Status 1967-1970 and Race[a]

(Percentage distributions)

Interview status 1971 and 1967-1970	WHITES		BLACKS	
	Percent of total	Percent of subtotal	Percent of total	Percent of subtotal
Total percent	100		100	
Interviewed 1971	79	100	69	100
Interviewed last in 1970	73	92	62	90
Interviewed last in 1969	2	3	3	4
Interviewed last in 1968	2	3	2	3
Interviewed last in 1967	1	1	2	2
Interviewed last in 1966	1	1	0^+	1
Not interviewed in 1971	21	100	31	100
Interviewed last in 1970	5	25	10	31
Interviewed last in 1969	4	18	6	20
Interviewed last in 1968	4	20	6	21
Interviewed last in 1967	5	23	5	16
Interviewed last in 1966	3	14	4	12
Number of respondents	3,734		1,438	

UNIVERSE: All respondents in the initial (1966) sample.

[a] The total sample in 1966 consisted of 5,225 men 14 to 24 years of age. This table excludes 53 respondents who are classified as neither white nor black (e.g., Chinese Americans, American Indians).

0^+ Indicates nonzero value rounded to zero.

Table 1A.3 Type of Area of Residence 1971, by Type of Area of Residence 1966 and Race[a]

(Percentage distributions)

Type of area of residence 1966	Type of area of residence 1971				Number of respondents	Vertical percentage distribution
	Total percent	SMSA central city	SMSA outside central city	Outside SMSA		
	WHITES					
Total or average	100	27	38	35	2,953	100
In SMSA						
In central city	100	82	12	6	685	23
Outside central city	100	10	81	8	1,059	38
Outside SMSA	100	11	10	79	1,209	39
	BLACKS					
Total or average	100	54	16	30	987	100
In SMSA						
In central city	100	94	5	1	424	47
Outside central city	100	11	87	3	114	13
Outside SMSA	100	22	6	72	449	41

UNIVERSE: Males 19 to 29 years of age in 1971 who were in the civilian noninstitutional population in 1966 and 1971.

[a] In Tables 1A.3 to 1A.18 the universes are restricted to those young men who were interviewed at the relevant surveys and who provided information on the subject under consideration.

Table 1A.4 Division of Residence 1971, by Division of Residence 1966 and Race

(Percentage distributions)

Division of residence, 1966	Division of residence 1971										Number of respondents	Vertical percentage distribution
	Total percent	New England	Mid Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific		
						WHITES						
Total or average	100	6	18	22	8	15	5	8	4	13	2,957	100
New England	100	90	4	1	0	3	0	0	0	2	158	6
Mid Atlantic	100	2	88	3	0^+	4	0	0^+	1	2	555	19
East North Central	100	0^+	1	94	0^+	2	0^+	0^+	1	1	641	22
West North Central	100	0	1	2	93	0^+	0	0^+	1	2	250	9
South Atlantic	100	0^+	3	3	0^+	90	2	1	0^+	1	450	14
East South Central	100	0	0	4	0	5	90	1	0^+	1	184	6
West South Central	100	0	1	2	1	3	1	87	2	3	264	9
Mountain	100	0	0	1	2	2	0	2	86	8	108	4
Pacific	100	1	1	0	0^+	1	0	0^+	3	94	347	12
						BLACKS						
Total or average	100	1	15	16	3	31	12	16	0	6	989	100
New England	100	@	@	@	@	@	@	@	@	@	5	1
Mid Atlantic	100	0	98	0	0	2	0	0	0	0	87	13
East North Central	100	0	1	97	0	0	1	0	0	1	123	13
West North Central	100	@	@	@	@	@	@	@	@	@	21	3
South Atlantic	100	1	8	2	0	87	0^+	0	0	2	377	35
East South Central	100	0	1	10	1	0	79	3	0	6	171	15
West South Central	100	0	0	3	0	3	0	92	0	2	172	17
Mountain	100	@	@	@	@	@	@	@	@	@	1	0^+
Pacific	100	0	0	3	0	0	0	2	0	95	32	4

UNIVERSE: Males 19 to 29 years of age in 1971 who were in the civilian noninstitutional population in 1966 and 1971.

@ Percentage distribution not shown where base contains fewer than 25 respondents.

0^+ Indicates nonzero value rounded to zero.

Table 1A.5 Division of Residence 1971, by Division of Residence 1966 and Race

(Percentage distributions)

Division of residence, 1966	Division of residence 1971										Number of respondents	Vertical percentage distribution
	Total percent	New England	Mid Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific		
	WHITES											
Total or average	100	5	17	22	9	15	5	10	3	14	1,193	100
New England	100	89	3	2	0	3	0	0	0	3	59	5
Mid Atlantic	100	4	82	3	0	7	0	1	1	2	214	19
East North Central	100	0	0^+	93	1	2	0^+	0^+	1	2	267	22
West North Central	100	0	2	3	89	1	0	1	2	3	108	9
South Atlantic	100	1	4	3	1	88	2	1	0	0	173	14
East South Central	100	0	0	4	0	7	88	0	0^+	0	79	5
West South Central	100	0	1	1	1	3	1	90	1	1	112	10
Mountain	100	0	0	2	3	3	0	0	76	16	39	3
Pacific	100	0	1	0	0	1	0	1	2	96	142	13
	BLACKS											
Total or average	100	2	18	20	2	28	13	12	0	5	421	100
New England	100	@	@	@	@	@	@	@	@	@	2	1
Mid Atlantic	100	0	97	0	0	3	0	0	0	0	35	13
East North Central	100	0	0	99	0	0	0	0	0	1	54	16
West North Central	100	@	@	@	@	@	@	@	@	@	7	2
South Atlantic	100	0^+	16	1	0	78	0	0	0	4	164	36
East South Central	100	0	1	17	1	0	73	3	0	5	85	18
West South Central	100	0	0	6	0	0	0	89	0	5	66	13
Mountain	100	@	@	@	@	@	@	@	@	@	0	0
Pacific	100	@	@	@	@	@	@	@	@	@	8	2

UNIVERSE: Males 19 to 29 years of age in 1971 who were enrolled in regular school in the fall of 1966 and were out of school in the civilian noninstitutional population in 1971.

@ Percentage distribution not shown where base contains fewer than 25 respondents.

0^+ Indicates nonzero value rounded to zero.

Table 1A.6 Number of Dependents 1971, by Number of Dependents 1966 and Race

(Percentage distributions)

Number of dependents[a] 1966	Number of dependents[a] 1971					Number of respondents	Vertical percentage distribution
	Total percent	1	2	3	4+		
	WHITES						
Total or average	100	8	20	44	28	595	100
1	100	17	32	39	12	225	39
2	100	2	18	53	28	221	38
3	100	1	1	46	52	117	19
4 or more	100	0	0	15	86	32	5
	BLACKS						
Total or average	100	3	17	20	60	118	100
1	100	13	33	20	34	25	19
2	100	0	18	28	54	44	44
3	100	3	10	13	75	34	26
4 or more	100	@	@	@	@	15	11

UNIVERSE: Males 19 to 29 years of age in 1971 who were married (wife present) and in the civilian noninstitutional population in 1966 and 1971.

a Including wife.

@ Percentage distribution not shown where base contains fewer than 25 respondents.

Table 1A 7 Educational Progress of 1966 Students: Educational Attainment 1971, by Grade Attending 1966 and Race

(Percentage distributions)

Educational attainment 1971[a]	Grade attending 1966							
	Junior high	9th	10th	11th	12th	College 1 and 2	College 3 and 4	Graduate/ professional school
	WHITES							
Total percent	100	100	100	100	100	100	100	100
Junior high	13	1	0	0	0	0	0	0
9th	19	4	3	0	0	0	0	0
10th	13	6	5	2	0	0	0	0
11th	14	4	5	4	4	0	0	0
12th	40	49	41	47	43	2	0	0
College 1	0	34	12	13	16	18	0	0
College 2	0	1	34	10	7	19	1	0
College 3	0	0	1	23	10	12	11	0
College graduate	0	0	0	0+	19	32	56	10
Graduate school	0	0	0	0	1	16	32	90
Number of respondents	46	205	324	317	296	364	162	78
	BLACKS							
Total percent	100	100	100	100	100	100	100	100
Junior high	37	2	0	0	0	0	@	@
9th	9	8	2	0	0	0	@	@
10th	17	21	8	8	0	0	@	@
11th	14	5	12	12	7	0	@	@
12th	22	51	54	50	65	5	@	@
College 1	2	14	9	11	7	13	@	@
College 2	0	0	16	8	9	27	@	@
College 3	0	0	0	11	7	21	@	@
College graduate	0	0	0	0	5	24	@	@
Graduate school	0	0	0	0	0	10	@	@
Number of respondents	75	114	115	91	79	45	18	3

UNIVERSE: Males enrolled in regular school in the fall of 1966.

a The categories "College 1" through "College graduate" may contain individuals who had attended junior colleges or similar institutions prior to 1971.

@ Percentage distribution not shown where base contains fewer than 25 respondents.

0+ Indicates nonzero value rounded to zero.

Table 1A.8 Revision and Achievement of 1966 Educational Goals, by 1966 Enrollment Status[a], 1966 Educational Goal, and Race

Educational goal 1966	Attending college in 1966					Out of school 1966 but desired additional schooling				
	Percent[b]				Number of respondents	Percent[b]				Number of respondents
	Achieving goal by 1971	Revising goal		Not achieving goal but in school 1971		Achieving goal by 1971	Revising goal		Ever returned to school by 1971	
		Up	Down				Up	Down		
	WHITES									
Total or average	34	19	18	24	588	5	15	41	26	369
High school diploma	@	@	@	@	0	6	34	20	6	78
Junior college	68	54	1	9	19	@	@	@	@	9
Bachelor's degree	45	41	10	18	192	2	10	45	27	204
Advanced degree	27	7	22	27	377	15	8	48	46	78
	BLACKS									
Total or average	9	15	22	23	60	1	7	42	19	101
High school diploma	@	@	@	@	0	2	12	26	5	43
Junior college	@	@	@	@	1	@	@	@	@	0
Bachelor's degree	15	24	16	25	19	0	6	57	21	47
Advanced degree	6	10	24	23	40	@	@	@	@	11

UNIVERSE: Males 19 to 29 years of age in 1971 who either were attending college in the fall of 1966 or were out of school in the fall and desired to return.

[a] For detailed analysis of the revision of educational goals by 1966 high school students, see Chapter II.

[b] Percentages do not add to 100 because those who revised their 1966 goal may have achieved it or may have been enrolled in 1971.

@ Percentages not shown where base contains fewer than 15 respondents.

Table 1A.9 Occupational Aspirations in 1966, by Occupational Aspirations in 1971 and Race

(Percentage distributions)

Occupational aspiration in 1966	Occupational aspiration in 1971											Number of respondents	Vertical percentage distribution
	Total percent	Professional, technical	Manager	Clerk/ salesman	Craftsman/ foreman	Operative	Nonfarm laborer	Service worker	Farm worker	Armed forces	Don't know not ascertained		
	WHITES												
Total or average	100	12	21	6	24	13	2	4	5	0	12	1,096	100
Professional, technical	100	31	24	5	14	8	1	4	2	0	12	216	20
Manager	100	8	45	8	12	15	1	2	2	0	6	145	14
Clerk/ salesman	100	8	33	26	17	0	3	2	2	0	9	66	6
Craftsman/ foreman	100	6	19	4	46	10	1	1	3	0	11	245	22
Operative	100	3	12	3	24	36	5	1	4	0	11	151	13
Nonfarm laborer	100	@	@	@	@	@	@	@	@	@	@	17	2
Service worker	100	3	9	10	12	5	3	52	0	0	6	36	4
Farm worker	100	4	11	2	9	4	2	2	62	0	4	56	5
Armed forces	100	@	@	@	@	@	@	@	@	@	@	3	0^+
Don't know/not ascertained	100	11	13	5	27	13	2	1	3	0	26	161	15
	BLACKS												
Total or average	100	11	14	4	22	17	4	6	2	0	20	437	100
Professional, technical	100	50	7	7	7	15	3	3	0	0	9	55	14
Manager	100	11	31	3	9	2	0	20	0	0	24	27	8
Clerk/ salesman	100	@	@	@	@	@	@	@	@	@	@	22	5
Craftsman/ foreman	100	3	18	3	41	16	4	5	1	0	9	112	25
Operative	100	6	3	2	32	25	1	4	0	0	26	61	15
Nonfarm laborers	100	@	@	@	@	@	@	@	@	@	@	18	3
Service workers	100	@	@	@	@	@	@	@	@	@	@	21	6
Farm worker	100	@	@	@	@	@	@	@	@	@	@	7	2
Armed forces	100	@	@	@	@	@	@	@	@	@	@	2	0^+
Don't know/not ascertained	100	2	16	4	16	14	5	5	3	0	34	112	22

UNIVERSE: Males 19 to 29 years of age who, in 1966 and 1971, were not enrolled in school and were in the civilian noninstitutional population.
@ Percentage distribution not shown where base contains fewer than 25 respondents. 0^+ Indicates nonzero value rounded to zero.

Table 1A.10 Occupational Aspirations in 1966, by Occupational Aspirations in 1971 and Race

(Percentage distributions)

Occupational aspiration in 1966	Occupational aspiration in 1971: Total percent	Professional, technical	Manager	Clerk salesman	Craftsman/ foreman	Operative	Nonfarm laborer	Service worker	Farm worker	Armed forces	Don't know not ascertained	Number of respondents	Vertical percentage distribution
	WHITES												
Total or average	100	30	22	5	15	6	1	3	3	0^+	14	1,193	100
Professional, technical	100	44	21	4	9	3	0	3	1	0	14	521	46
Manager	100	19	48	10	6	1	1	2	3	0	10	117	10
Clerk/ salesman	100	16	32	12	9	15	2	0	3	5	6	44	4
Craftsman/ foreman	100	12	14	6	44	9	3	1	2	0	10	155	12
Operative	100	4	8	5	39	30	4	0	4	0	5	26	2
Nonfarm laborer	100	@	@	@	@	@	@	@	@	@	@	12	1
Service worker	100	@	@	@	@	@	@	@	@	@	@	23	2
Farm worker	100	11	18	0	13	12	1	2	36	0	7	43	4
Armed forces	100	@	@	@	@	@	@	@	@	@	@	13	1
Don't know/not ascertained	100	26	16	4	17	9	1	3	2	0	20	239	19
	BLACKS												
Total or average	100	27	14	6	11	13	2	6	1	0^+	21	421	100
Professional, technical	100	48	19	5	7	3	1	3	1	0	14	145	39
Manager	100	@	@	@	@	@	@	@	@	@	@	17	5
Clerk/ salesman	100	@	@	@	@	@	@	@	@	@	@	24	6
Craftsman/ foreman	100	9	4	6	24	17	2	4	1	0	32	81	16
Operative	100	7	5	2	8	47	0	20	0	0	11	43	10
Nonfarm laborer	100	@	@	@	@	@	@	@	@	@	@	3	0^+
Service worker	100	@	@	@	@	@	@	@	@	@	@	11	2
Farm worker	100	@	@	@	@	@	@	@	@	@	@	3	1
Armed forces	100	@	@	@	@	@	@	@	@	@	@	5	1
Don't know/not ascertained	100	14	14	6	9	12	5	7	2	1	30	89	20

UNIVERSE: Males 19 to 29 years of age who were, enrolled in regular school in the fall of 1966 and were out of school and in the civilian noninstitutional population in 1971.

@ Percentage distribution not shown where base contains fewer than 25 respondents. 0^+ Indicates nonzero value rounded to zero.

Table 1A.11 Labor Force Participation Rates and Unemployment Rates of Students and Nonstudents, by Race and Survey Year

Survey year and labor force status rates	WHITES			BLACKS		
	Total or average	Students	Nonstudents	Total or average	Students	Nonstudents
1966						
Labor force participation rate	70.2	54.1	96.0	73.4	53.1	94.5
Unemployment rate	8.7	14.9	3.1	12.9	24.4	6.1
Number of respondents	3,734	2,334	1,400	1,438	834	604
1967						
Labor force participation rate	74.2	56.8	95.3	77.6	56.1	94.9
Unemployment rate	7.8	14.7	2.9	15.4	29.5	8.8
Number of respondents	3,429	1,898	1,531	1,313	644	669
1968						
Labor force participation rate	79.0	59.3	95.6	83.0	59.7	95.5
Unemployment rate	5.2	10.6	2.4	9.4	24.5	4.3
Number of respondents	3,117	1,453	1,664	1,163	459	704
1969						
Labor force participation rate	83.7	62.3	96.0	85.8	57.7	94.0
Unemployment rate	5.4	9.2	4.0	9.0	17.0	7.6
Number of respondents	2,933	1,093	1,840	1,057	279	778
1970						
Labor force participation rate	86.2	61.2	96.0	90.0	68.8	94.3
Unemployment rate	5.9	6.3	5.8	11.6	12.7	11.4
Number of respondents	2,923	813	2,110	1,031	196	835
1971						
Labor force participation rate	90.7	69.5	97.0	90.3	70.6	93.2
Unemployment rate	5.9	4.7	6.1	9.3	4.8	9.8
Number of respondents	2,957	668	2,289	989	131	858

UNIVERSE: Male youth interviewed at the respective surveys.

Table 1A.12 Number of Weeks of Unemployment in the Period between the 1969 and 1971 Surveys, by Number of Weeks Unemployed in Calendar Year 1966 and Race

(Percentage distributions)

Weeks unemployed 1966	Number of weeks unemployed 1969-1971						Number of respondents	Vertical percentage distribution
	Total percent	None	1-4	5-14	15-25	26+		
	WHITES							
Total or average	100	71	10	8	5	5	1,456	100
None	100	73	10	8	5	4	1,234	84
1-4	100	61	11	10	7	12	110	8
5-14	100	63	9	14	9	5	76	6
15 or more	100	46	25	14	3	11	36	2
	BLACKS							
Total or average	100	53	15	14	7	11	508	100
None	100	57	16	10	5	12	373	73
1-4	100	39	12	21	15	13	57	12
5-14	100	54	8	23	12	4	48	9
15 or more	100	34	15	27	5	18	30	5

UNIVERSE: Males 19 to 29 years of age in 1971 who were civilians and not enrolled in school in the following time intervals: 1965-1966 and 1969-1971.

Table 1A.13 Number of Weeks Unemployed between the 1966 and 1971 Surveys, by Race and Educational Attainment

(Percentage distributions)

Weeks unemployed 1966-1971	WHITES				BLACKS			
	Educational attainment				Educational attainment			
	Total or average	Less than 12	12	13 or more	Total or average	Less than 12	12	13 or more
Total percent	100	100	100	100	100	100	100	100
None	54	42	59	69	34	28	40	@
1-5	19	22	19	14	16	14	19	@
6-10	10	13	9	5	13	15	10	@
11-25	10	12	8	9	15	19	12	@
26-50	5	7	4	2	13	15	11	@
51 or more	2	4	2	1	9	9	9	@
Mean number of weeks	6.2	8.9	5.0	3.7	15.4	16.3	14.3	@
Mean number of weeks for those with any	13.5	15.1	12.2	12.0	23.3	22.6	23.8	@
Number of respondents	870	329	411	130	347	228	105	14

UNIVERSE: Males 19 to 29 years of age in 1971 who were out of school and in the civilian population from 1966 through 1971 and who were interviewed at three or more of the surveys between 1967 and 1970.

@ Means and percentage distributions not shown where base contains fewer than 25 respondents.

Table 1A.14 Real Average Hourly Earnings 1966-1971, in November 1971 Dollars[a], by Race and 1966 Educational Attainment

Educational attainment (1966)	Real average hourly earnings						Percent increase 1966-1971	Number of respondents
	1966	1967	1968	1969	1970	1971		
	WHITES							
Total or average	3.09	3.35	3.62	3.85	4.07	4.23	37	518
0-11	2.82	2.94	3.27	3.40	3.44	3.56	26	171
12	3.08	3.39	3.61	3.88	4.11	4.33	41	262
13-15	3.46	3.81	4.04	4.19	4.73	4.62	34	50
16+	3.90	4.34	4.73	5.23	5.77	6.10	56	35
	BLACKS							
Total or average	2.19	2.51	2.78	2.82	2.99	3.17	45	169
0-11	1.91	2.14	3.25	2.44	2.60	2.59	36	89
12	2.36	2.72	3.03	3.07	3.24	3.54	50	70
13-15	@	@	@	@	@	@	@	7
16+	@	@	@	@	@	@	@	3

UNIVERSE: Males 19 to 29 years of age who were out of school and employed as wage and salary workers at each of the survey dates 1966-1971.

a Adjustments are based on the Consumer Price Index for the month of November 1966 through 1971.

@ Means and percentages not shown where base contains fewer than 25 respondents.

Table 1A.15 Mean Real Family Income 1966 and 1971, in 1971 Dollars[a], by Educational Attainment and Race

Educational attainment	Family income in 1971 dollars			Number of respondents
	1966	1971	Percent change 1966-1971	
	WHITES			
Total or average	8,560	11,291	32	303
0-11 years	7,422	9,499	28	91
12 years	8,585	11,052	29	148
13 or more years	9,996	14,200	42	64
	BLACKS			
Total or average[b]	4,875	7,534	55	54
0-11 years	3,648	5,585	53	32
12 years	5,974	9,260	55	21

UNIVERSE: Males 19 to 29 years of age who were married (wife present) and in the civilian noninstitutional population in 1966 and 1971.

[a] Data for 1966 are adjusted on the basis of the Consumer Price Index to reflect the purchasing power of the dollar in 1971.

[b] Includes one respondent who had attended college.

Table 1A.16 Mean Real Per Capita Family Income 1966 and 1971, in 1971 Dollars[a], by Race and Educational Attainment

Educational attainment	Per capita family income in 1971 dollars			Number of respondents
	1966	1971	Percent change 1966-1971	
	WHITES			
Total or average	3,164	3,144	-1	303
0-11 years	2,611	2,448	-6	91
12 years	3,086	3,067	-1	148
13 or more years	4,073	4,239	4	64
	BLACKS			
Total or average[b]	1,537	1,683	9	54
0-11 years	1,112	1,250	12	32
12 years	1,849	1,992	8	21

UNIVERSE: See Table 1A.15.

a-b See Table 1A.15, footnotes a and b.

Table 1A.17 Mean Real Net Family Assets 1966 and 1971, in 1971 Dollars[a], by Marital Status 1966 and 1971 and Race

Marital status	Net family assets in 1971 dollars			Number of respondents
	1966	1971	Percent change 1966-1971	
			WHITES	
Married, wife present 1966/1971	3,877	10,984	183	475
Never married 1966, married wife present 1971	1,612	5,741	256	87
Other	1,130	5,749	409	79
			BLACKS	
Married, wife present 1966/1971	553	3,165	472	95
Never married 1966, married wife present 1971	106	49	-54	54
Other	-241	1,334	b	34

UNIVERSE: Males 19 to 29 years of age in 1971 in the civilian noninstitutional population and not living with their parents in 1966 and 1971.

[a] Data for 1966 are adjusted on the basis of the Consumer Price Index to reflect the purchasing power of the dollar in 1971.

[b] Percentage change not computed where base is a negative number.

Table 1A.18 Mean Real Per Capita Net Family Assets 1966 and 1971, in 1971 Dollars[a], by Marital Status 1966 and 1971 and Race

Marital status	Per capita net family assets in 1971 dollars			Number of respondents
	1966	1971	Percent change 1966-1971	
	WHITES			
Married wife present 1966/1971	1,440	3,000	108	475
Never married 1966, married wife present 1971	849	2,085	146	87
Other	604	4,553	654	79
	BLACKS			
Married wife present 1966/1971	171	1,016	494	95
Never married 1966, married wife present 1971	56	-34	-161	54
Other	-147	1,195	b	34

UNIVERSE: See Table 1A.17.

a-b See Table 1A.17, footnotes a-b.

Table 2A.1 Occupation Desired at Age 30, by Race and Grade Attending

(Percentage distributions)

Job family[a] of occupational goal	WHITES					BLACKS				
	Grade attending 1966					Grade attending 1966				
	Total or average	9	10	11	12	Total or average	9	10	11	12
Total percent	100	100	100	100	100	100	100	100	100	100
Tools, specialized	1	1	2	1	2	5	4	6	7	2
Tools, nonspecialized	17	19	14	17	20	20	24	18	21	18
Machines and equipment, specialized	1	1	0+	1	1	0+	0	0+	0	0
Machines and equipment, nonspecialized	2	3	2	2	2	5	4	3	2	12
Inspection	4	4	3	4	3	3	11	0+	2	2
Vehicle operation	4	4	5	3	2	3	6	2	3	1
Farm	4	4	4	4	4	1	1	1	2	0
Sales requiring considerable product knowledge	1	1	0+	0+	0+	0+	0	0+	0	0
Sales requiring little product knowledge	1	1	1	1	1	1	0	1	1	1
Clerical	3	3	3	4	2	7	8	3	6	13
Personal service	1	0	1	0+	2	1	0	0+	2	3
Entertainment	4	5	5	3	4	11	8	10	16	7
Protection	5	4	4	5	6	1	2	1	0	2
Education	8	5	11	9	7	10	9	12	9	9
Health	9	11	10	7	8	6	6	7	8	4
Welfare	1	1	1	1	2	2	1	1	4	2
Administrative and organizational	15	16	12	14	18	9	10	11	6	10
Research and design	20	17	23	22	16	15	8	23	12	15
Number of respondents	1,147	172	338	328	309	498	113	149	125	111

UNIVERSE: Male high school students in the fall of 1966.

[a] For a brief description of "job family," see Table 2.4, footnote a, which describes the conceptual basis of this occupational grouping system developed by Scoville (1969).

0^+ Indicates nonzero value rounded to zero.

Table 2A.2 Occupation Desired at Age 30, by Educational Goal

(Percentage distributions)

Job family[a] of occupational goal	Educational goal			
	Total or average	High school graduation (or less)	College graduation[c]	Graduate school
"Don't know"[b]	19	23	21	7
Total percent[b]	100	100	100	100
Other, by job family[b]				
Tools	20	47	13	1
Machines and equipment	3	8	2	1
Inspection	4	4	4	3
Vehicle operation	4	7	3	0⁺
Farming	4	7	3	1
Sales	1	1	2	0
Clerical	3	4	3	3
Personal services	1	2	1	0
Entertainment	5	3	6	3
Protection	4	4	5	3
Health, education, welfare	18	2	19	38
Administrative or organizational	14	6	16	20
Research and development	19	6	23	27
Number of respondents	2,049	599	1,161	289

UNIVERSE: See Appendix Table 2A.1.

a For a brief description of "job family," see Table 2.4, footnote "a," which describes the conceptual basis of this occupational grouping system developed by Scoville (1969).

b The percent of responses identified as "Don't Know" is based on all cases, but the base of the percentage distribution by Job Family excludes the cases of "Don't Know".

c Includes those desiring college degrees below the bachelor's level.

0^+ Indicates nonzero value rounded to zero.

Table 2A.3 Means and Standard Deviations for Regressions on the Levels of Educational and Occupational Goals, by Race

Explanatory variables	EDGOAL66				OCCASPDUNC66			
	WHITES		BLACKS		WHITES		BLACKS	
	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.
RES14SM	0.50	0.50	0.31	0.46	0.48	0.50	0.27	0.44
RES14LG	0.28	0.45	0.47	0.50	0.29	0.45	0.51	0.50
READING	3.45	0.94	2.45	1.42	3.45	0.93	2.34	1.46
EDYRS66	9.95	0.82	9.90	0.81	9.99	0.83	9.92	0.85
EXPERHS1	0.25	0.43	0.16	0.37	0.24	0.42	0.19	0.39
EXPERHS2	0.31	0.46	0.32	0.47	0.32	0.46	0.26	0.44
OCCINF	33.32	6.31	28.60	6.42	33.49	6.18	28.18	6.53
IQ	106.89	14.24	87.29	14.58	106.85	14.65	87.31	15.22
INCPERCAP	2170.	1329.	1007.	787.	2149.	1334.	997.	794.
HSQUAL	6.00	2.00	5.66	2.24	5.96	1.99	5.68	2.30
%BLKLOW	0.72	0.45	0.20	0.40	0.71	0.45	0.19	0.39
%BLKHIGH			0.59	0.49			0.62	0.49
NONPUBLSCH	0.11	0.31	0.05	0.21	0.10	0.31	0.04	0.19
ENCOUR	1.40	0.58	1.26	0.66	1.39	0.58	1.34	0.66
SES*	23.06	9.86	14.48	6.34	23.04	9.79	14.25	6.31
Number of respondents	666		156		534		135	

UNIVERSE: See Table 2.5.

Table 2A.4 Regression Results and Means and Standard Deviations for Years of Schooling Completed, by Race

(Absolute t-values in parentheses)

Explanatory variables	WHITES				BLACKS			
	Coeff.	(t-value)	Mean	Std. dev.	Coeff.	(t-value)	Mean	Std. dev.
SES	0.2843**	(10.05)	10.31	1.74	0.1271**	(2.17)	9.27	1.86
IQ	0.0366**	(9.87)	99.1	13.1	0.0396**	(5.18)	85.5	13.8
SIBLINGS	-0.1106**	(5.02)	2.8	2.2	-0.0606*	(1.58)	4.4	2.8
Constant	5.86	(13.78)			7.54	(9.22)		
$\bar{R}^2$	.26				.18			
F-ratio	109.15				15.19			
Number of respondents	916				201			
Dependent variable (mean, std. dev.)	12.12 1.65				11.84 1.59			

UNIVERSE: Young males not enrolled in school in 1966 with at least nine years of schooling completed.

NOTE: In these data, the range of values observed for the dependent variable are 9 through 18 and 9 through 17 for whites and blacks, respectively. In the data for whites, the range of values observed for each of the explanatory measures are 3.1 through 15.2 (SES), 50. through 145. (IQ) and 0. through 13. (SIBLINGS). The predicted number of years for a young man with values of 15.2, 145. and 0. is calculated to be: 5.86 + (0.2843)(15.2) + (0.0366)(145.) + (-0.1107)(0.) = 15.49 years.

* Statistically significant at .10 level.

** Statistically significant at .05 level.

Table 2A.5 Educational Goal Compared to Predicted Educational Attainment

(Percentage distributions)

Educational goal, 1966	Predicted educational attainment[a]						Number of respondents
	Total percent	Less than 12 years	12 years	13 years	14 or 15 years	16 or more	
Total or average[b]	100	14	35	38	13	0	1,321
High school graduation	100	33	47	19	1	0	343
Associate degree	100	25	46	27	3	0	176
Bachelor's degree	100	6	30	49	14	0	586
Graduate degree	100	2	20	47	31	0	216

UNIVERSE: High school students in 1966.

[a] Predicted on the basis of background, IQ and number of siblings, separately by race; see Appendix Table 2A.4

[b] In this table, the "Total" excludes respondents for whom one or more of the measures necessary to compute a prediction is not available.

Table 2A.6 Means and Standard Deviations for Regressions on the Incongruence of Educational and Occupational Goals, by Race

Explanatory variables	WHITES		BLACKS	
	Mean	Std. dev.	Mean	Std. dev.
RES14SM	0.49	0.50	0.27	0.45
RES14LG	0.29	0.45	0.51	0.50
READING	3.46	0.93	2.33	1.46
EDYRS66	9.96	0.83	9.91	0.85
EXPERHS1	0.24	0.43	0.19	0.39
EXPERHS2	0.31	0.46	0.26	0.44
OCCINF	33.47	6.18	28.18	6.55
IQ	106.90	14.69	87.11	15.07
INCPERCAP66	2150.	1332.	1000.	796.
HSQUAL	5.97	1.98	5.68	2.30
%BLKLOW	0.71	0.46	0.19	0.39
%BLKHIGH			0.62	0.49
NONPUBLSCH	0.11	0.31	0.04	0.19
ENCOUR	1.40	0.58	1.33	0.66
SES*	23.07	9.81	14.29	6.32
Number of respondents	530		134	

UNIVERSE: See Table 2.9.

Table 2A.7 Means and Standard Deviations for Regressions on the Likelihood of Unrealistic Educational Goals, by Race

Explanatory variables	WHITES		BLACKS	
	Mean	Std. dev.	Mean	Std. dev.
RES14SM	0.50	0.50	0.32	0.47
RES14LG	0.28	0.45	0.47	0.50
READING	3.45	0.94	2.43	1.43
EDYRS66	9.95	0.82	9.90	0.83
EXPERHS1	0.25	0.43	0.17	0.38
EXPERHS2	0.31	0.46	0.29	0.46
OCCINF	33.28	6.31	28.36	6.42
IQ	106.90	14.23	87.03	14.68
INCPERCAP66	2174.	1332.	1009.	801.
HSQUAL	6.00	2.00	5.71	2.24
%BLKLOW	0.72	0.45	0.21	0.41
%BLKHIGH			0.59	0.49
NONPUBLSCH	0.11	0.31	0.03	0.17
ENCOUR	1.39	0.58	1.30	0.65
SES*	23.08	9.88	14.48	6.41
Number of respondents	661		155	

UNIVERSE: See Table 2.11.

Table 2A.8 Means and Standard Deviations for Regressions on Pessimism about Achieving Educational Goals and on Education Expected, by Race

Explanatory variables	WHITES		BLACKS	
	Mean	Std. dev.	Mean	Std. dev.
RES14SM	0.51	0.50	0.36	0.48
RES14LG	0.32	0.47	0.53	0.50
READING	3.59	0.81	2.74	1.36
EDYRS66	9.94	0.83	9.87	0.83
EXPERHS1	0.26	0.44	0.17	0.38
EXPERHS2	0.29	0.45	0.28	0.45
OCCINF	33.78	6.03	29.69	5.84
IQ	109.31	13.63	91.23	14.13
INCPERCAP66	2,338.	1,361.	1,122.	649.
HSQUAL	5.97	2.01	5.66	2.18
%BLKLOW	0.72	0.45	0.17	0.38
%BLKHIGH			0.56	0.50
NONPUBLSCH	0.13	0.33	0.04	0.20
ENCOUR	1.53	0.48	1.49	0.54
SES*	24.45	9.85	15.38	7.13
Number of respondents	526		108	

UNIVERSE: See Table 2.14.

Table 2A.9 Regression Results for Education Expected, by Race

(Absolute t-values in parentheses)

Explanatory variables[a]	WHITES		BLACKS	
INFORMATION				
Residence, age 14				
RES14RUR	(omitted group)		(omitted group)	
RES14SM	-0.22	(1.26)	0.92	(1.59)
RES14LG	-0.27*	(1.44)	0.50	(0.83)
READING	0.20**	(2.64)	-0.02	(0.14)
EDYRS66	0.05	(0.64)	0.37*	(1.70)
Work experience in high school				
EXPERHS0	(omitted group)		(omitted group)	
EXPERHS1	-0.05	(0.33)	-1.30**	(2.55)
EXPERHS2	-0.23	(1.57)	-0.20	(0.49)
OCCINF	0.01	(0.87)	-0.02	(0.60)
CAPACITIES				
IQ	0.03**	(5.57)	0.02	(1.44)
CONSTRAINTS				
INCPERCAP66	0.0001*	(1.64)	0.00^+	(0.89)
HSQUAL	-0.02	(0.61)	-0.11	(1.35)
%BLACK				
%BLKLOW	-0.02	(0.14)	0.52	(0.90)
%BLKMED	(omitted group)		(omitted group)	
%BLKHIGH			0.65	(1.44)
NONPUBLSCHL	0.10	(0.41)	0.74	(0.82)
ENCOUR	0.79**	(5.93)	0.22	(0.65)
BACKGROUND				
SES*	0.03**	(4.96)	-0.01	(0.49)
Constant	9.26	(10.06)	9.83	(4.04)
$\bar{R}^2$	.26		.09	
F-ratio	14.47		1.66	
Number of respondents	526		108	
Dependent variable[b] (mean, std. dev.)	15.59 1.60		15.21 1.71	

UNIVERSE: Male high school students in 1966 who desire to complete at least some college.

a Statistical significance of all regression coefficients is based on two-tailed tests.

b For mean and standard deviation of each explanatory measure, see Appendix Table 2A.8.

0^+ Indicates nonzero value rounded to zero.

* Statistically significant at .10 level.

** Statistically significant at .05 level.

Table 2A.10 Means and Standard Deviations for Regressions on Downward Revisions of Educational Goals during High School, by Race

Explanatory variables	WHITES		BLACKS	
	Mean	Std. dev.	Mean	Std. dev.
EDCONGRHIGH	0.13	0.33	0.18	0.39
EDCONGRLOW	0.07	0.25	0.06	0.24
UNREALSTC66	0.24	0.43	0.48	0.50
PESSIMST66	0.43	1.12	0.52	1.27
YRSHS	1.78	0.78	1.56	0.81
SES*	10.95	2.20	9.66	2.01
Number of respondents	979		332	

UNIVERSE: See Table 2.15.

Table 2A.11 Means and Standard Deviations for Regressions on Downward Revision in Educational Goals after High School, by Race

Explanatory variables	WHITES		BLACKS	
	Mean	Std. dev.	Mean	Std. dev.
EDCONGRHIGH (base year)	0.17	0.37	0.33	0.47
EDCONGRLOW (base year)	0.09	0.28	0.06	0.25
UNREALSTC (base year)	0.33	0.47	0.52	0.50
PESSIMST (base year)	0.48	1.09	0.73	1.43
WKSWORKPOSTHS	63.95	30.31	57.92	31.23
ENRPOSTHS<1	0.16	0.37	0.15	0.36
ENRPOSTHSC1	0.04	0.19	0.04	0.19
ENRPOSTHSC2	0.55	0.50	0.31	0.46
SES*	11.44	2.15	9.58	2.05
Number of respondents	687		209	

UNIVERSE: See Table 2.16.

Table 3A.1 Means and Standard Deviations for Regressions on Labor Market Success in 1971, by Race

Explanatory variables	WHITES		BLACKS	
	Mean	Std. dev.	Mean	Std. dev.
WAGE71	3.94	1.59	3.19	1.18
DUNC71	41.41	24.95	27.43	20.10
GED71	11.04	2.74	9.75	2.63
SVP71	2.18	1.70	1.50	1.36
ln (WAGE71)	1.29	0.40	1.09	0.37
EDYRS71	13.05	2.09	12.22	1.68
ED:HS71	0.47	0.50	0.59	0.49
ED:COL71	0.20	0.40	0.12	0.32
ED:AA71	0.01	0.12	0.01	0.11
ED:BA71	0.14	0.35	0.08	0.27
ED:MA71	0.03	0.16	(no cases)	
ED:PHD71	0.02	0.13	0.00^+	0.06
TRAINCP71	0.26	0.44	0.19	0.39
TRAINCM71	0.09	0.29	0.07	0.26
TRAINCC71	0.05	0.21	0.01	0.12
TRAINCS71	0.23	0.42	0.16	0.36
TRAINMIL71	0.14	0.35	0.07	0.25
TENR71	26.80	27.97	20.86	20.90
EXPER71	53.44	39.28	60.42	38.94
EXPER71 (squared)	4,398.07	5,601.97	5,160.16	5,896.80
MILDURTOT71	6.53	13.19	6.13	12.12
IQ	102.76	13.25	85.48	14.20
OCCINF	36.64	7.09	30.55	7.39
SES	10.61	1.86	9.14	1.84
HEALTH71	0.11	0.31	0.10	0.30
SMSA71	0.64	0.48	0.82	0.38
SOUTH71	0.28	0.45	0.47	0.50
Number of respondents	1,233		227	

UNIVERSE: See Table 3.2.
0^+ Indicates nonzero value rounded to zero.

Table 3A.2 Zero Order Correlations of Various Measures of Labor Market Success and Selected Explanatory Variables Used in Model Ia, by Race

Explanatory variables	WAGE71	DUNC71	GED71	SVP71
	WHITES			
DUNC71	.31			
GED71	.26	.79		
SVP71	.21	.67	.84	
EDYRS71	.23	.60	.57	.48
IQ	.15	.38	.33	.25
OCCINF	.32	.42	.36	.27
TENR71	.23	.05	.02	.07
EXPER71	.21	-.15	-.15	-.09
	BLACKS			
DUNC71	.29			
GED71	.18	.82		
SVP71	.11	.59	.85	
EDYRS71	.31	.52	.52	.45
IQ	.19	.36	.35	.28
OCCINF	.42	.26	.27	.26
TENR71	.14	-.15	-.17	-.12
EXPER71	.06	-.31	-.29	-.31

UNIVERSE: See Table 3.2.

Table 3A.3 Regression Results for Model Ia Using the Natural Logarithm of Hourly Rate of Pay, by Race

(Absolute t-values in parentheses)

Explanatory variables	Natural log of WAGE71			
	WHITES		BLACKS	
Schooling				
ED:EL71	(omitted)		(omitted)	
ED:HS71	0.06**	(1.72)	0.04	(0.78)
ED:COL71	0.13**	(2.77)	0.20**	(2.32)
ED:AA71	0.16@	(1.76)	0.23@	(1.16)
ED:BA71	0.31**	(5.77)	0.27@	(2.49)
ED:MA71	0.39**	(4.98)		
ED:PHD71	0.33@	(3.52)	0.59@	(1.70)
Training				
TRAINCP71	0.05**	(2.01)	0.07	(1.14)
TRAINCM71	0.02	(0.52)	-0.10@	(1.20)
TRAINCC71	0.03	(0.60)	0.13@	(0.75)
TRAINCS71	0.05**	(2.16)	0.12**	(2.14)
TRAINMIL71	0.08**	(1.90)	0.11@	(1.09)
Experience				
EXPER71	0.003**	(6.67)	0.001**	(2.03)
TENR71	0.002**	(4.29)	0.002*	(1.61)
MILDURTOT71[a]	0.001	(0.53)	0.001	(0.37)
Personal characteristics				
IQ	0.0003	(0.30)	-0.001	(0.64)
OCCINF	0.008**	(4.56)	0.008**	(2.41)
HEALTH71	-0.09**	(2.74)	-0.16@	(2.14)
SES	0.003	(0.41)	0.02*	(1.60)
Environment				
SMSA71	0.14**	(6.39)	0.24**	(4.04)
SOUTH71	-0.09**	(3.69)	-0.16**	(3.68)
Constant	0.54	(4.95)	0.39	(2.34)
$\bar{R}^2$	.24		.38	
F-ratio	20.77		8.16	
Number of respondents	1,233		227	
Dependent variable[b] (mean, std. dev.)	1.29 0.40		1.09 0.37	

(Table continued on next page.)

Table 3A.3 Continued

UNIVERSE: Nonstudent males 19 to 29 in 1971 who were employed as full time wage or salary workers in 1971.

a Statistical significance of regression coefficient based on two-tailed test.

b For means and standard deviations of explanatory variables, see Appendix Table 3A.1.

@ Coefficient based on fewer than 25 respondents.

* Statistically significant at .10 level.

** Statistically significant at .05 level.

Table 3A.4 Regression Results for Model Ia Using EXPER71 Squared, by Race

(Absolute t-values in parentheses)

Explanatory variables	Dependent variable: WAGE71			
	WHITES		BLACKS	
Schooling				
ED:EL71	-0.25**	(1.82)	-0.04	(0.22)
ED:HS71	(omitted)		(omitted)	
ED:COL71	0.32**	(2.62)	0.59**	(2.52)
ED:AA71	0.45$^{@}$	(1.33)	0.45$^{@}$	(0.71)
ED:BA71	1.07**	(7.08)	1.00$^{@}$	(3.15)
ED:MA71	1.39**	(5.22)		
ED:PHD71	1.27$^{@}$	(3.86)	2.13$^{@}$	(1.89)
Training				
TRAINCP71	0.16*	(1.61)	0.23	(1.24)
TRAINCM71	0.03	(0.22)	0.04$^{@}$	(0.14)
TRAINCC71	0.01	(0.07)	0.31$^{@}$	(0.55)
TRAINCS71	0.28**	(2.82)	0.43**	(2.35)
TRAINMIL71	0.24*	(1.56)	0.28$^{@}$	(0.88)
Experience				
EXPER71	0.021**	(5.38)	0.011*	(1.64)
$(\text{EXPER71})^2$	-0.00007**	(2.59)	-0.00004	(0.90)
TENR71	0.005**	(2.54)	0.003	(0.69)
MILDURTOT71^{a}	0.003	(0.61)	0.001	(0.12)
Personal characteristics				
IQ	0.004	(1.02)	-0.004	(0.74)
OCCINF	0.03**	(4.51)	0.03**	(2.75)
HEALTH71	-0.42**	(3.29)	-0.50$^{@}$	(2.09)
SES	0.02	(0.94)	0.03	(0.74)
Environment				
SMSA71	0.56**	(6.57)	0.64**	(3.33)
SOUTH71	-0.31**	(3.42)	-0.51**	(3.54)
Constant	0.60	(1.32)	1.23	(2.03)
$\bar{R}^2$	.26		.34	
F-ratio	21.14		6.92	
Number of respondents	1,233		227	
Dependent variable^{b} (mean, std. dev.)	3.94 1.59		3.19 1.18	

(Table continued on next page.)

Table 3A.4 Continued

UNIVERSE: See Appendix Table 3A.3.

a Statistical significance of regression coefficient based on two-tailed test.

b For means and standard deviations of explanatory variables, see Appendix Table 3A.1.

@ Coefficient based on fewer than 25 respondents.

* Statistically significant at .10 level.

** Statistically significant at .05 level.

Table 3A.5 Regression Results for Model Ib, by Race

(Absolute t-values in parentheses)

Explanatory variables	Basic version		Credentials effect		Curriculum and quality	
	WHITES					
Schooling						
EDYRS71	0.16**	(2.29)	-0.02	(0.16)	0.03	(0.23)
High school graduate						
ED:HS71			0.41*	(1.52)		
High school curriculum						
HSCURR:GEN71					-0.05	(0.19)
HSCURR:COLL71					0.14	(0.46)
HSCURR:CML71					-0.21	(0.61)
HSCURR:VOC71					-0.04	(0.12)
Quality of high school						
HSQUAL:EL71					-0.05	(1.04)
HSQUAL:HS71					0.01	(0.40)
Training:						
TRAINCP71	0.08	(0.61)	0.07	(0.51)	0.06	(0.44)
TRAINCM71	0.18	(0.87)	0.17	(0.85)	0.16	(0.78)
TRAINCC71	-0.13	(0.64)	-0.13	(0.62)	-0.14	(0.68)
TRAINCS71	0.49**	(4.60)	0.48**	(4.60)	0.48**	(4.55)
TRAINMIL71	0.18	(1.01)	0.15	(0.84)	0.16	(0.89)
Experience						
EXPER71	0.010**	(5.98)	0.010**	(6.03)	0.010**	(6.03)
TENR71	0.004**	(2.08)	0.004**	(2.09)	0.004**	(2.04)
MILDURTOT71[a]	0.005	(1.08)	0.006	(1.26)	0.006	(1.22)
Personal characteristics						
IQ	0.003	(0.62)	0.002	(0.43)	0.001	(0.15)
OCCINF	0.03**	(3.45)	0.03**	(3.45)	0.03**	(3.42)
HEALTH71	-0.23*	(1.52)	-0.22*	(1.45)	-0.24*	(1.55)
SES	-0.02	(0.64)	-0.02	(0.55)	-0.02	(0.72)
Environment						
SMSA71	0.53**	(5.09)	0.53**	(5.07)	0.53**	(5.03)
SOUTH71	-0.41**	(3.56)	-0.41**	(3.52)	-0.41**	(3.50)
Constant	-0.42	(0.48)	1.44	(0.96)	1.39	(0.96)
$\bar{R}^2$	.24		.25		.24	
F-ratio	15.81		14.99		11.50	
Number of respondents	686		686		686	
Dependent variable[b] (mean, std. dev.)	3.76 1.45		3.76 1.45		3.76 1.45	

(Table continued on next page.)

Table 3A.5 Continued

Explanatory variables	Basic version		Credentials effect		Curriculum and quality	
	BLACKS					
Schooling						
EDYRS71	0.05	(0.71)	0.05	(0.29)	0.12	(0.74)
High school graduate						
ED:HS71			0.01	(0.03)		
High school curriculum						
HSCURR:GEN71					0.15	(0.32)
HSCURR:COLL71					-0.16@	(0.32)
HSCURR:CML71					0.27@	(0.48)
HSCURR:VOC71					0.10@	(0.21)
Quality of high school						
HSQUAL:EL71					0.04	(0.71)
HSQUAL:HS71					-0.01	(0.25)
Training						
TRAINCP71	-0.16@	(0.79)	-0.16@	(0.79)	-0.15@	(0.75)
TRAINCM71	-0.90@	(2.69)	-0.90@	(2.67)	-0.77@	(2.19)
TRAINCC71	0.80@	(1.34)	0.80@	(1.33)	0.93@	(1.52)
TRAINCS71	0.41**	(2.44)	0.41**	(2.43)	0.45**	(2.56)
TRAINMIL71	0.49@	(1.72)	0.47@	(1.71)	0.47@	(1.61)
Experience						
EXPER71	0.003*	(1.57)	0.003*	(1.53)	0.004*	(1.62)
TENR71	0.005*	(1.40)	0.005*	(1.39)	0.004	(1.12)
MILDURTOT71@	0.003	(0.50)	0.003	(0.50)	0.002	(0.26)
Personal characteristics						
IQ	0.000¯	(0.05)	0.000¯	(0.05)	0.001	(0.18)
OCCINF	0.01*	(1.34)	0.01*	(1.34)	0.01	(1.23)
HEALTH71	-0.56@	(2.59)	-0.56@	(2.56)	-0.59@	(2.54)
SES	0.10**	(1.98)	0.10**	(1.97)	0.11**	(2.21)
Environment						
SMSA71	0.53**	(2.86)	0.53**	(2.85)	0.47**	(2.43)
SOUTH71	-0.57**	(4.11)	-0.57**	(4.09)	-0.54**	(3.74)
Constant	0.59	(0.62)	0.63	(0.35)	-0.51	(0.28)
$\bar{R}^2$	.40		.39		.38	
F-ratio	8.08		7.52		5.75	
Number of respondents	162		162		162	
Dependent variable (mean, std. dev.)	2.99 1.01		2.99 1.01		2.99 1.01	

UNIVERSE: Nonstudents employed as full time wage or salary workers in 1971, with not more schooling than high school graduation.

a Statistical significance of regression coefficient based on two-tailed test.

b For means and standard deviations of the explanatory variables, see Appendix Table 3A.6.

@ Coefficient based on fewer than 25 respondents.

0¯ Indicates negative nonzero value rounded to zero.

* Statistically significant at .10 level.

** Statistically significant at .05 level.

Table 3A.6 Means and Standard Deviations for Regressions for Model Ib, by Race

Explanatory variables	WHITES		BLACKS	
	Mean	Std. dev.	Mean	Std. dev.
WAGE71	3.76	1.45	2.99	1.01
EDYRS71	11.67	0.77	11.52	0.91
ED:HS71	0.81	0.39	0.75	0.43
HSCURR:GEN71	0.45	0.50	0.47	0.50
HSCURR:COLL71	0.14	0.35	0.11	0.31
HSCURR:CML71	0.05	0.22	0.04	0.21
HSCURR:VOC71	0.15	0.35	0.12	0.33
HSQUAL:EL71	1.14	2.48	1.32	2.52
HSQUAL:HS71	4.98	3.00	4.00	3.08
TRAINCP71	0.17	0.38	0.13	0.33
TRAINCM71	0.06	0.24	0.04	0.20
TRAINCC71	0.06	0.23	0.01	0.11
TRAINCS71	0.32	0.47	0.18	0.39
TRAINMIL71	0.18	0.38	0.08	0.28
EXPER71	67.14	38.95	67.18	37.24
TENR71	30.77	30.53	21.71	22.01
MILDURTOT71	8.67	15.04	7.15	12.78
IQ	98.28	12.08	82.41	12.30
OCCINF	34.77	6.69	29.37	6.99
HEALTH71	0.11	0.32	0.12	0.32
SES	9.98	1.68	8.85	1.69
SMSA71	0.61	0.49	0.82	0.39
SOUTH71	0.27	0.44	0.48	0.50
Number of respondents	686		162	

UNIVERSE: See Appendix Table 3A.5.

Table 3A.7 Regression Results for Model Ic, Whites Only

(Absolute t-values in parentheses)

Explanatory variables	Basic version		Credential effect		Major field of study and quality	
Schooling						
EDYRS71	0.26**	(3.82)	0.24**	(2.35)	0.26**	(2.72)
College graduate						
ED:AA71			0.40$^{@}$	(0.96)	-0.22$^{@}$	(0.28)
ED:BA71			0.09	(0.31)		
College field of study						
FIELD:OTH71					0.66$^{@}$	(1.07)
FIELD:HUM71					-0.70$^{@}$	(1.16)
FIELD:EDU71					-0.07$^{@}$	(0.12)
FIELD:SCI71					0.06$^{@}$	(0.11)
FIELD:BUS71					0.69*	(1.30)
FIELD:SOC71					0.01$^{@}$	(0.01)
FIELD:ENG71					2.15$^{@}$	(3.63)
College quality						
COLLQUAL:COL					-0.005	(0.85)
COLLQUAL:AA					0.026	(0.70)
COLLQUAL:BA					-0.014	(1.71)
Training						
TRAINCP71	0.06	(0.31)	0.06	(0.34)	0.16	(0.94)
TRAINCM71	-0.41	(1.74)	-0.42	(1.76)	-0.40	(1.73)
TRAINCC71	0.45$^{@}$	(1.01)	0.4[illegible]$^{@}$	(1.07)	0.59$^{@}$	(1.37)
TRAINCS71	-0.53	(1.73)	-0.51	(1.65)	-0.57	(1.91)
TRAINMIL71	0.07	(0.19)	0.04	(0.12)	-0.00^{+}	(0.0^{+})
Experience						
EXPER71	0.020**	(4.65)	0.021**	(4.68)	0.021**	(4.92)
TENR71	0.011**	(2.08)	0.011**	(2.05)	0.011**	(2.02)
MILDURTOT71	-0.002	(0.19)	-0.000^{+}	(0.01)	0.00-	(0.0^{+})
Personal characteristics						
IQ	0.000^{+}	(0.04)	0.001	(0.14)	0.00^{+}	(0.02)
OCCINF	0.03**	(2.17)	0.03**	(2.18)	0.03**	(2.01)
HEALTH71	-0.40*	(1.46)	-0.39*	(1.42)	-0.21	(0.77)
SES	0.10**	(1.90)	0.09**	(1.82)	0.08*	(1.61)
Environment						
SMSA71	0.53**	(2.95)	0.54**	(3.02)	0.53**	(3.06)
SOUTH71	-0.19	(1.02)	-0.18	(0.97)	-0.35**	(1.92)
Constant	-3.21	(2.57)	-3.09	(1.90)	-2.81	(1.81)
$\bar{R}^2$	.29		.29		.36	
F-ratio	9.67		8.56		7.97	
Number of respondents	320		320		320	
Dependent variable^{a} (mean, std. dev.)	4.17 1.70		4.17 1.70		4.17 1.70	

UNIVERSE: Nonstudents employed as full time wage or salary workers in 1971 with at least some college but not more than a bachelor's degree.

a For means and standard deviations of the explanatory variables, see Appendix Table 3A.8.

@ Coefficient based on fewer than 25 respondents.

0^{+} Indicates nonzero value rounded to zero.

0- Indicates negative nonzero value rounded to zero.

* Statistically significant at .10 level.

** Statistically significant at .05 level.

Table 3A.8 Means and Standard Deviations for Regressions for Model Ic, Whites Only

Explanatory variables	Mean	Std. dev.
WAGE71	4.17	1.70
EDYRS71	14.91	1.37
ED:AA71	0.04	0.21
ED:BA71	0.42	0.49
FIELD:OTH71	0.04	0.19
FIELD:HUM71	0.03	0.18
FIELD:EDU71	0.05	0.21
FIELD:SCI71	0.07	0.26
FIELD:BUS71	0.09	0.29
FIELD:SOC71	0.07	0.26
FIELD:ENG71	0.06	0.24
COLLQUAL:COL	17.88	21.91
COLLQUAL:AA	0.78	4.18
COLLQUAL:BA	18.94	24.33
TRAINCP71	0.38	0.49
TRAINCM71	0.15	0.35
TRAINCC71	0.04	0.18
TRAINCS71	0.09	0.28
TRAINMIL71	0.10	0.29
EXPER71	33.79	28.37
TENR71	21.89	22.56
MILDURTOT71	3.41	9.06
IQ	109.84	11.40
OCCINF	39.30	6.08
HEALTH71	0.10	0.30
SES	11.47	1.64
SMSA71	0.69	0.46
SOUTH71	0.27	0.45
Number of respondents	320	320

UNIVERSE: See Appendix Table 3A.7.

Table 3A.9 Calculation of F-ratios with (Δk, n-k) Degrees of Freedom on Variants of Models Ib and Ic, by Race

Item	WHITES		BLACKS	
	F-ratio	(df_1, df_2)	F-ratio	(df_1, df_2)
Tests on Model Ib				
Credentials effect	2.32[a]	(1,669)	0.00^{+}	(1,145)
High school curriculum	0.79	(4,666)	0.48	(4,142)
High school quality	0.79	(2,664)	0.30	(2,140)
Tests on Model Ic				
Credentials effect	0.48	(2,302)		
College field of study	5.19**	(8,296)	(b)	
College quality	1.32	(3,293)		

SOURCE: Regression results for Model Ib (Appendix Table 3A.5) and Model Ic (Appendix Table 3A.7).

[a] This F-ratio is nonsignificant by virtue of not exceeding the critical value of 2.71 at the 10 percent level. Although Appendix Table 3A.5 indicates that the t-value of ED:HS71 is 1.52, which is significant at the 10 percent level based on a one-tailed test, the two results are not inconsistent since the critical value of the F-ratio at α percent for (1,x) degrees of freedom is the square of the α percent critical value of the t-ratio based on a two-tailed test.

[b] Analysis not performed due to small sample sizes.

0^{+} Indicates nonzero value rounded to zero.

** Statistically significant at .05 level.

Table 3A.10 Regression Results for GED Score on Jobs Obtained by White Labor Market Entrants, for 1966 through 1968 and for 1969 through 1971

(Absolute t-values in parentheses)

Explanatory variables[a]	Dependent variable			
	GED 1966-1968 Model IIa		GED 1969-1971 Model IIb	
Schooling				
ED:EL__	0.34[@]	(0.45)	1.36[@]	(1.43)
ED:HS__	(omitted)		(omitted)	
ED:COL__	1.56**	(3.49)	0.54	(1.04)
ED:AA__	3.52[@]	(3.47)	-1.13[@]	(1.07)
ED:BA__	5.03**	(9.75)	2.36**	(4.44)
Training				
TRAINCIV__	0.42	(1.10)	0.48	(1.04)
Experience				
EXPER*__	0.041	(0.48)	-0.090	(1.11)
TENR*__	0.009	(0.12)	0.059	(0.82)
Personal characteristics				
OCCINF	0.028	(0.92)	0.084**	(2.92)
HEALTH__	-0.34[@]	(0.60)	-1.28[@]	(1.97)
SES	-0.15	(1.65)	0.12	(1.03)
Environment				
SMSA__	0.02	(0.06)	-0.40	(1.04)
Constant	9.42	(7.19)	6.10	(3.87)
$\bar{R}^2$	.49		.21	
F-ratio	16.21		6.31	
Number of respondents	176		227	
Dependent variable (mean, std. dev.)	11.47 3.01		10.42 3.11	

UNIVERSE: See Table 3.6.

[a] All variables except OCCINF and SES are measured at the time of the first survey after leaving school (i.e., in October through December of the relevant year).

[@] Coefficient based on fewer than 25 respondents.

** Statistically significant at .05 level.

Table 3A.11 Regression Results for SVP Score on Jobs Obtained by White Labor Market Entrants, for 1966 through 1968 and for 1969 through 1971

(Absolute t-values in parentheses)

Explanatory variables[a]	Dependent variable			
	SVP 1966-1968 Model IIa		SVP 1969-1971 Model IIa	
Schooling				
ED:EL__	0.14@	(0.33)	0.67@	(1.16)
ED:HS__	(omitted)		(omitted)	
ED:COL__	0.65**	(2.56)	0.32	(1.02)
ED:AA__	2.25@	(3.90)	-0.55@	(0.85)
ED:BA__	2.63**	(8.94)	0.90**	(2.75)
Training				
TRAINCIV__	0.30*	(1.37)	0.18	(0.62)
Experience				
EXPER*__	-0.017	(0.34)	-0.100	(2.01)
TENR*__	0.003	(0.08)	0.027	(0.61)
Personal characteristics				
OCCINF	0.009	(0.51)	0.032**	(1.82)
HEALTH__	-0.17@	(0.52)	-0.15@	(0.38)
SES	-0.09	(1.68)	0.07	(0.94)
Environment				
SMSA__	-0.06	(0.27)	-0.25	(1.08)
Constant	1.86	(2.50)	0.50	(0.52)
$\bar{R}^2$	.45		.08	
F-ratio	14.10		2.82	
Number of respondents	176		227	
Dependent variable (mean, std. dev.)	2.27 1.66		1.97 1.78	

UNIVERSE: See Table 3.6.

a All variables except OCCINF and SES are measured at the time of the first survey after leaving school (i.e., in October through December of the relevant year).

@ Coefficient based on fewer than 25 respondents.

* Statistically significant at .10 level.

** Statistically significant at .05 level.

Table 3A.12 Means and Standard Deviations for Regressions for Model II, Whites Only

Explanatory variables	Model IIa		Model IIb	
	Mean	Std. dev.	Mean	Std. dev.
EDYRS__	13.88	1.84	13.59	1.88
ED:EL__	0.06	0.24	0.05	0.22
ED:HS__	0.28	0.45	0.38	0.49
ED:COL__	0.32	0.47	0.27	0.45
ED:AA__	0.03	0.17	0.03	0.18
ED:BA__	0.31	0.46	0.26	0.44
TRAINCIV__	0.28	0.45	0.21	0.41
EXPER__	7.23	2.51	6.90	2.66
TENR__	5.45	2.84	4.21	2.84
OCCINF	38.15	6.64	33.30	7.52
HEALTH__	0.10	0.30	0.09	0.29
SES	10.75	1.94	11.09	1.80
SMSA__	0.69	0.46	0.61	0.49
SOUTH__	0.26	0.44	0.24	0.43
Number of respondents	176	176	227	227

UNIVERSE: See Table 3.6.

Table 4A.1 Regression Results: The Likelihood of Upward Occupational Mobility[a] between First Postschool Job and 1971, by Measure of Upward Mobility, Race, and Comparison of First and 1971 Employers

(Coefficients shown in percentage points)

(Absolute t-values in parentheses)

Explanatory variables[b]	GEDUPFJ/71[b]			SVPUPFJ/71[b]		
	WHITES		BLACKS[c]	WHITES		BLACKS[c]
	Same employer	Different employer	Different employer	Same employer	Different employer	Different employer
EDYRS71	2.9 (1.84)**	2.2 (3.08)**	4.0 (3.74)**	1.9 (1.29)*	2.7 (3.44)**	2.5 (2.22)**
TRAINCP71	1.2 (0.21)	13.0 (4.01)**	17.7 (2.25)**	-6.6 (1.21)	5.1 (1.43)*	5.6 (0.66)
TRAINCM71	5.3 (0.70)	14.0 (2.92)**	-10.5 (0.88)@	10.4 (1.39)*	8.6 (1.64)**	13.3 (1.03)@
TRAINCC71	1.3 (0.12)@	12.2 (1.95)**	16.8 (0.99)@	-9.0 (0.85)	4.5 (0.66)	-3.5 (0.19)@
TRAINCS71	2.1 (0.34)	1.8 (0.63)	8.9 (1.76)**	3.6 (0.58)	7.1 (2.23)**	8.9 (1.65)**
OCCINF	0.9 (2.19)**	0.6 (3.06)**	0.4 (1.18)	0.7 (1.73)**	0.1 (0.50)	0.5 (1.41)*
VETANY71[d]	-1.8 (0.25)	2.7 (0.89)	-3.5 (0.67)	5.1 (0.72)	-4.3 (1.31)	-5.2 (0.95)
EXPER71	0.2 (2.22)**	0.0⁻ (0.68)	0.1 (1.06)	0.3 (3.77)**	0.0⁺ (0.93)	0.1 (0.96)
HLTHLMTFJ/71	-14.5 (1.75)**	3.7 (0.97)	4.1 (0.67)	-21.3 (2.60)**	2.9 (0.70)	7.9 (1.20)
GEOMOBFJ/71	-6.4 (0.91)	-1.0 (0.33)	0.6 (0.13)	-14.6 (2.11)	-5.0 (1.57)	5.6 (1.19)
PUBLICFJ[d]	-7.9 (1.03)	e	e	-3.6 (0.47)	e	e
ΔEMPVOLFJ[d]	e	0.7 (0.23)	-8.2 (1.54)	e	6.5 (1.86)**	-6.4 (1.12)
ΔEMPNAFJ	e	5.8 (1.50)*	5.7 (0.88)	e	7.3 (1.74)**	-1.6 (0.24)
GEDFJ	-6.8 (6.43)**	-11.5 (21.25)**	-12.3 (12.35)**	e	e	e
SVPFJ	e	e	e	-8.1 (5.09)	-14.3 (12.80)**	-21.3 (7.78)**
Constant	22.3 (1.27)	104.4 (12.12)**	93.5 (7.30)**	-18.8 (1.05)	15.9 (1.72)	13.5 (1.12)
$\bar{R}^2$	.19	.31	.30	.19	.14	.14
F-ratio	6.73	39.17	16.19	6.65	15.21	6.69
Number of respondents	293	1,119	491	293	1,119	451
Dependent variable (mean, std. dev.)	26.7 44.3	49.1 50.0	48.7 50.0	25.7 43.8	40.7 49.2	36.2 48.1

UNIVERSE: Males 19 to 29 years of age in 1971 who were last enrolled in school in October 1970 or earlier, employed in the 1971 survey week, and whose first job after leaving school was other than as a farmer or an unpaid family farm worker.

a Upward mobility is alternatively defined in terms of an increase of 0.5 years in the GED level (GEDUPFJ/71) or in the SVP level (SVPUPFJ/71) of the three-digit occupation.

b For a detailed description of the variables, see the text and the Glossary.

c There were too few black respondents who stayed with their first employers through 1971 to permit analysis of the group.

d Two-tailed test of statistical significance are applied to this variable.

e The variable does not apply to this equation.

@ Coefficient based on fewer than 25 respondents.

0⁺ Indicates nonzero value rounded to zero.

0⁻ Indicates negative nonzero value rounded to zero.

* Statistically significant at .10 level.

** Statistically significant at .05 level.

Table 4A.2 Probability of Changing Three-Digit Occupation and Occupational Family between First Postschool Job and 1971, by Race and Comparison of First and 1971 Employer

Race and comparison of first to 1971 employer	Probability of changing		Number of respondents
	3-digit occupation (percentage)	Occupational family (percentage)	
White			
Same employer	46	32	293
Different employer	86	69	1,119
Black[a]			
Different employer	90	78	451

UNIVERSE: See Table 4A.1.

[a] There were too few black respondents who stayed with their first employer through 1971 to permit analysis of the group.

Table 4A.3 Major Occupation Group in 1970, by Major Occupation Group in 1965 and Race, According to the 1970 Census: Males 20 to 29 Years of Age in 1970 Employed in 1965 and 1970

(Percentage distributions)

Major occupation group in 1965	Major occupation group in 1970										Total number (thousands)
	Total percent	Professionals, technicians	Managers	Sales workers	Clerical and kindred workers	Craftsmen	Operatives	Nonfarm laborers	Service workers	Farm workers	
	WHITES										
Professionals, technicians	100	76	7	4	4	5	3	1	2	0^+	489
Managers	100	8	56	10	6	7	7	2	3	0^+	249
Sales workers	100	11	14	44	8	8	9	2	4	0^+	317
Clerical and kindred workers	100	15	10	7	41	10	9	3	4	0	410
Craftsmen	100	4	4	3	3	68	12	3	3	1	939
Operatives	100	5	4	3	5	18	56	5	4	1	1,156
Nonfarm laborers	100	8	5	5	7	18	23	28	5	1	461
Service workers	100	10	5	4	7	11	15	5	42	0^+	301
Farm workers	100	3	2	2	3	10	18	7	3	51	218
	BLACKS										
Professionals, technicians	100	71	5	2	6	4	6	2	4	0	19
Managers	100	8	44	6	9	5	15	5	7	0^+	7
Sales workers	100	6	7	40	15	7	12	4	7	0^+	10
Clerical and kindred workers	100	7	3	3	54	6	15	5	6	0	36
Craftsmen	100	2	1	1	3	65	18	6	4	1	56
Operatives	100	1	1	1	4	9	70	8	4	0^+	136
Nonfarm laborers	100	2	1	1	5	11	25	49	6	1	72
Service workers	100	3	2	1	6	8	22	9	47	1	65
Farm workers	100	1	0^+	1	2	8	23	12	5	48	28

SOURCE: Computed from Occupation and Residence in 1965, Census of Population Subject Report, PC(2), pt. 7E (Washington: U.S. Department of Commerce, Social and Economic Statistics Administration, Bureau of the Census, 1973), Table 2, pp. 8-10.

0^+ Indicates nonzero value rounded to zero.

Table 4A.4 Regression Results: The Likelihood of Upward Occupational Mobility[a] between 1966 and 1971, by Measure of Upward Mobility, Race, and Comparison of 1966 and 1971 Employers

(Coefficients shown in percentage points)

(Absolute t-values in parentheses)

Explanatory variables[b]	GEDUP66/71						SVPUP66/71					
	WHITES				BLACKS[c]		WHITES				BLACKS[c]	
	Same employer		Different employer		Different employer		Same employer		Different employer		Different employer	
EDYRS66	3.1	(1.69)**	3.1	(3.25)**	4.6	(3.12)**	1.3	(0.79)	2.5	(2.52)**	3.2	(2.19)**
ΔEDYRS66/71	-3.2	(0.70)	11.4	(3.59)**	-1.1	(0.10)@	-3.1	(0.70)	2.7	(0.79)	-4.4	(0.44)@
TRAINANY66	-5.3	(0.84)	2.6	(0.56)	29.2	(2.77)@	-9.8	(1.60)	5.9	(1.20)	9.2	(0.88)@
TRAINANY66/71	6.6	(1.21)	3.8	(1.08)	7.5	(1.23)	-1.2	(0.24)	8.7	(2.28)**	-1.3	(0.20)
OCCINF	0.3	(0.67)	0.4	(1.45)*	0.6	(1.39)*	0.8	(1.82)**	0.2	(0.63)	0.7	(1.59)*
VETANY71[d]	8.4	(1.40)	4.9	(1.32)	-8.1	(1.13)	10.6	(1.81)*	0.5	(0.13)	-7.3	(1.02)
TENR66	-0.1	(1.18)	e		e		-0.1	(0.70)	e		e	
HLTHLMT66/71	-6.9	(0.70)@	7.6	(1.52)	11.6	(1.28)	-19.9	(2.10)@	8.7	(1.61)	20.7	(2.32)
PUBLIC66[d]	-9.8	(1.17)	e		e		-27.6	(3.51)**	e		e	
GEOMOB66/71	-2.0	(0.26)	1.7	(0.46)	5.1	(0.71)	-0.9	(0.12)	1.2	(0.29)	-1.1	(0.15)
ΔEMPVOL66	e		1.9	(0.33)	16.0	(2.03)**	e		1.5	(0.25)	10.7	(1.37)*
ΔEMPNA66	e		0.0-	(0.02)	12.0	(1.54)	e		-4.6	(0.76)	9.6	(1.24)
OCCASPUP	-1.2	(0.22)	5.0	(1.32)*	-10.1	(1.59)	-2.6	(0.48)	1.2	(0.30)	-8.3	(1.34)
UNCOMIT	0.8	(0.15)	6.7	(1.89)**	22.8	(3.63)**	2.1	(0.40)	6.7	(1.76)**	10.3	(1.63)*
GED66	-8.7	(6.22)**	-11.8	(14.50)**	-13.4	(7.83)**	e		e		e	
SVP66	e		e		e		-7.5	(4.15)**	-14.4	(10.17)**	-22.8	(6.43)**
Constant	74.1	(3.60)**	92.4	(7.93)**	62.4	(3.20)**	2.5	(0.13)	10.5	(0.91)	-11.8	(0.76)
$\bar{R}^2$	.14		.32		.30		.11		.17		.19	
F-ratio	4.54		21.36		8.63		3.66		9.74		5.24	
Number of respondents	286		562		231		286		562		231	
Dependent variable (mean, std. dev.)	33.0 47.1		38.8 48.8		40.8 49.3		27.2 44.6		33.7 47.3		29.3 45.6	

UNIVERSE: Males 19 to 29 years of age in 1971 who were not enrolled in school in 1966 and in 1971, who were employed in the 1966 and in 1971 survey weeks, and whose 1966 and 1971 jobs were other than as a farmer or an unpaid family farm worker.

a Upward mobility is alternatively defined in terms of an increase of 0.5 years in the GED level (GEDUP66/71) or in the SVP level (SVPUP66/71) of the three-digit occupation.

b For a detailed description of the variables, see the text and the Glossary.

c There were too few black respondents who stayed with the same employer from 1966 through 1971 to permit analysis of the group.

d Two-tailed tests of statistical significance are applied to this variable.

e The variable does not apply to this equation.

@ Coefficient based on fewer than 25 respondents.

* Statistically significant at .10 level.

0⁻ Indicates negative nonzero value rounded to zero.

** Statistically significant at .05 level.

Table 5A.1 Operational Definitions of Types of Job Separations

Type of separation	Responses to . . .	
	Why did you leave (this) job?	Did you have a new job lined up?[b]
Low volition:		
1. Layoff, plant closing end of temporary job[a]	⌈Same as "type"⌉	⌈Not consulted⌉
2. Discharge	"	"
3. Health or disability	"	"
4. Closed own business	⌈Not consulted⌉[c]	"
5. Institutionalization	⌈Not defined⌉	"
6. Military	"	"
Unplanned quits:		
7. Quit because disliked hours, work or conditions	⌈Same as "type"⌉	"No"
8. Quit for personal or family reasons	"	"
9. Quit because of location or community	"	"
10. Quit because of wages	"	"
Prearranged quit:		
11. Found better job	⌈Any response except wages⌉	"Yes"
12. Better wages	Quit because of wages	"
13. Open own business	⌈Not consulted⌉[c]	⌈Not consulted⌉[c]
14. Quits related to schooling	⌈Not defined⌉	"

[a] It is not possible to separately identify the following three types of job separations in the NLS data: layoff, plant closing, and end of temporary job. All three types were originally coded into a single category.

[b] The coded answer for the item on having prearranged a new job was not always accepted at face value. Editing was necessary in several conceptual cases (each of which contained a small number of observations). For example, in one conceptual case, it appeared from one item that "a job was lined up" before a quit, while at the same time from another item the respondent "looked for work" for one or more weeks after the quit; perhaps the job which was lined up "fell through." The survey instrument simply was not sensitive enough to collect all the information desirable for this study. On whether a new job was lined up before a quit, there probably are cases coded (1) "yes," where the prearrangement was not consummated in writing, (2) "yes," where the prearrangement occurred after resigning but before leaving the firm, (3) "no," where the new job was lined up but not in writing, and (4) "yes," where the job lined up was not the job the worker accepted.

[c] The identification of "closed (opened) own business" was made by consulting the item "Class of Worker" (i.e., wage and salary, self-employed, or unpaid family worker) for both the current and next job.

Table 5A.2 The 52-Week Work Histories

(I)	Total number of respondents in sample		5,225
	Less respondents not interviewed in 1971		- 1,238
	Less respondents in school at 1971 survey date		- 812
			3,175
	Times 52 weeks		x 52
			165,100
(II)	Total available "respondent-weeks"		165,100
	Less (a) all cases for non-white, non-black respondents;		
	(b) all weeks beginning the year:[a]		
	(i) in school,		
	(ii) in the armed forces, or		
	(iii) not working;		
	(c) weeks during the year in which an employment status could not be ascertained from the data		-29,329
			135,771
(III)	Distribution of relevant respondent-weeks:		
	(a) continued employment		127,016
	(b) continuing or culminating non-work		7,159
	(c) weeks including a job separation		1,596
			135,771
(IV)	Distribution of job separations:		
	(a) left the labor force		214
	(b) became unemployed		886
	(i) duration of spell not available	(182)	
	-- not complete by 1971 survey	(151)	
	-- not ascertained	(31)	
	(ii) duration of spell available	(704)	
	-- less than one full calendar week	(218)	
	-- one week or more	(486)	
	(c) took a new job "lined up" in advance		496
			1,596

NOTE: Percentage distributions derived from these data will not necessarily agree with percentage distributions presented elsewhere, because the latter have been calculated using "weights" from the original NLS sampling design. Abstracting from the weights, the following illustrates the calculations for computing the percent of job separations in the text:

$$\text{Percent} = \frac{\text{Weeks including a separation x 100}}{\text{Weeks begun at work}} = \frac{\text{Entry III (c) above x 100}}{\text{Entry III (c) + III (a)}} =$$

$$\frac{1{,}596}{1{,}596 + 127{,}016} \times 100.0.$$

[a] This study excludes cases of students and of labor market entrants and reentrants, but this is done by eliminating from consideration only the first portion of the year for such cases. To illustrate with a hypothetical case, consider a respondent who was a student for the first three months of the year, and then was a labor market entrant seeking work for the next two months, and then was employed by the XYZ Company for the next four months and then quit the XYZ Company. Such a quit would be included in our analyses, for only the first five months would have been excluded from any analysis. To put this in somewhat different words, we used all the data for each respondent beginning with the first week in which he was an employed nonstudent.

Table 5A.3 Regression Results for the Probability of Job Separations, by Race

(Coefficients shown in percentage points)

(Absolute t-values in parentheses)

Explanatory variables	Low volition separation				Voluntary separation			
	WHITES		BLACKS		WHITES		BLACKS	
LOCALUNRATEt[a]	.024	(2.04)	.007	(0.32)	-.028	(1.93)	.028	(1.04)
SMSAt	-.069	(1.28)	.142	(1.35)	.165	(2.50)	.160	(1.28)
WAGEt	-.019	(1.13)	-.044	(1.03)	-.207	(10.01)	-.252	(4.91)
MARRIED71	-.179	(3.07)	.025	(0.25)	-.153	(2.13)	-.285	(2.42)
DEPENDTS71	-.023	(0.97)	-.023	(0.64)	.028	(0.92)	.102	(2.43)
ED:EL71	.152	(2.28)	.321	(3.12)	.149	(1.81)	.125	(1.02)
ED:HS71	(omitted group)		(omitted group)		(omitted group)		(omitted group)	
ED:<BA71	.013	(0.19)	-.037	(0.20)	.049	(0.58)	.297	(1.37)
ED:BA+71	-.152	(2.00)	-.628	(2.62)	.031	(0.33)	.100	(0.35)
TRAINANY71	-.052	(1.02)	.099	(1.00)	-.036	(0.57)	-.183	(1.55)
EXPERt	.003	(3.91)	-.003	(2.29)	.001	(0.71)	-.004	(2.36)
TENRt	-.012	(11.98)	-.011	(5.19)	-.014	(10.86)	-.018	(7.33)
MILDURTOT71	-.001	(0.67)	-.001	(1.63)	.004	(1.54)	.005	(1.06)
HEALTH71	.147	(1.82)	.387	(2.13)	-.186	(1.87)	.792	(3.66)
Constant	.739	(7.33)	.892	(4.51)	1.925	(15.47)	1.840	(7.80)
$\overline{R}^2$	.0028		.0024		.0043		.0052	
F-ratio	19.33		6.50		29.63		13.17	
Number of observations	86,375		30,403		86,375		30,403	
Dependent variable (mean, std. dev.)	0.47 6.82		0.58 7.59		0.71 8.43		0.83 9.06	

UNIVERSE: See Table 5.4.

NOTE: See footnote 19 in the text.

[a] The suffix "t" denotes that a variable is measured at the time of the job separation, rather than at the NLS interview date.

Table 6A-1 Proportion of Respondents who Served in the Armed Forces Between 1964 and 1971, by Selected Characteristics and Race

Characteristic	WHITES		BLACKS	
	Number of respondents	Proportion who served	Number of respondents	Proportion who served
Total or average	3,627	29.2	1,432	25.7
Mental ability				
Above average	809	27.3	27	29.2
Average	1,534	34.1	264	38.2
Below average	301	27.6	314	28.9
NA	983	22.6	827	19.9
Socioeconomic level				
Lower SES	629	26.7	701	23.0
Middle SES	1,439	31.0	444	30.8
Higher SES	1,403	28.9	100	28.3
Education at age 18				
0-8 years	235	16.3	234	5.3
9-11 years	922	29.2	594	22.4
12 years	1,844	32.8	508	36.9
13-18 years	626	23.1	96	26.0
Residence at age 18				
North East	876	27.2	156	21.7
North Central	1,082	30.4	216	28.5
South-urban	456	33.2	442	33.5
South-rural	572	24.9	498	21.6
West	554	31.0	57	12.8
Health condition at age 18				
No health problems	3,429	30.2	1,367	25.9
Health problems	198	11.5	65	21.4
Dependents at age 18				
None	3,511	29.6	1,329	26.6
Some	116	17.1	103	12.5
War intensity at age 18				
Intense period	1,236	35.9	548	34.9
Not intense period	2,391	26.0	884	21.3

UNIVERSE: Respondents 19 to 29 years old in 1971 who were not discharged from the armed forces prior to 1964.

Table 6A.2 Employed Veterans Perceived Effects of Military Service on Civilian Careers, by Selected Characteristics

Characteristic	WHITES			BLACKS		
	Number of respondents	Percent reporting that military service was		Number of respondents	Percent reporting that military service was	
		Positive	Negative		Positive	Negative
Total or average	521	53.0	16.0	128	55.3	12.9
Method of entry to service						
Drafted	152	54.7	20.8	75	49.9	15.8
Enlisted	303	53.0	13.1	50	62.1	8.8
Other[a]	66	48.8	17.9	3	@	@
Branch of service						
Navy, Coast Guard	95	59.6	9.4	8	@	@
Army	317	51.7	17.9	96	56.5	14.0
Air Force	58	55.2	13.0	11	@	@
Marines	51	45.5	20.1	13	@	@
Duration of service						
0-12 months	87	24.4	19.7	15	@	@
13-24 months	234	57.5	15.8	76	39.8	14.5
25-36 months	95	57.7	12.6	25	84.2	7.0
37 months or more	105	62.2	16.2	12	@	@
Date of discharge						
1971	101	51.1	28.1	33	54.8	24.6
1970	117	58.0	19.8	41	57.6	9.1
1968-1969	109	48.4	15.2	31	41.8	16.5
1967 or earlier	194	53.5	7.5	23	64.0	5.3
Training in military						
None or military only	306	47.6	16.2	104	50.1	15.0
Some training	215	60.2	15.7	24	72.4	6.2
Military and post service occupation						
Same	104	54.2	15.2	11	@	@
Different	417	52.7	16.1	117	53.6	13.8
Education prior to service						
0-8	16	@	@	4	@	@
9-11	91	46.7	9.8	30	54.3	20.7
12	280	53.9	14.6	77	56.9	9.1
13-15	92	57.6	19.0	16	@	@
16-18	42	43.4	35.0	1	@	@
Returned to school post service						
No	407	51.6	17.2	114	57.7	13.5
Yes	114	57.6	11.9	14	@	@

UNIVERSE: Respondents who were Vietnam era veterans and who were employed in 1971.

a This category includes those who entered via ROTC and OCS and those whose method of entry was not ascertained.

@ Percentage not shown where base contains fewer than 20 respondents.

Table 6A-3 Regressions Relating Hourly Rate of Pay and Occupational Status in 1971 to Veteran Status and Other Selected Variables, by Race: Version I

(Absolute t-values in parentheses)

Explanatory variables[a]	Hourly rate of pay 1971 (dollars/hour)				Occupational status (Duncan Index)			
	WHITES		BLACKS		WHITES		BLACKS	
EDPRE	0.23**	(11.23)	0.14**	(5.85)	4.5**	(17.04)	2.3**	(6.54)
EDPOST	0.85**	(3.62)	-1.24@	(2.08)	11.8**	(3.87)	-3.9@	(0.45)
OCCINF	0.03**	(5.24)	0.02**	(2.20)	0.4**	(6.09)	0.2**	(2.01)
HEALTH71	-0.21**	(1.89)	-0.48**	(2.93)	-2.4	(0.97)	4.6**	(1.91)
EXPERPRE	0.11**	(7.71)	0.01	(0.87)	0.2*	(1.29)	-0.6	(2.59)
EXPERPOST	0.12**	(3.57)	0.17**	(3.50)	0.5	(1.25)	-0.9	(1.24)
TENR*71	0.01**	(4.80)	0.01**	(3.37)	0.1**	(3.12)	0.1**	(2.73)
TRAINCS71	0.29**	(3.46)	0.18*	(1.60)	-4.0	(3.66)	0.4	(0.23)
TRAINCC71	0.14	(0.84)	-0.26@	(0.65)	8.7**	(4.04)	6.8@	(1.18)
TRAINCP71	0.26**	(3.00)	0.22*	(1.46)	9.4**	(8.39)	7.0**	(3.10)
TRAINCM71	0.07	(0.51)	0.38*	(1.63)	10.5**	(6.19)	16.2**	(4.74)
SMSA71	0.31**	(4.06)	0.40**	(4.26)	2.7**	(2.71)	2.4**	(1.84)
SOUTH71	-0.45**	(6.05)	-0.65**	(6.76)	b		b	
PUBLIC71	-0.41**	(3.88)	0.23**	(1.81)	3.2**	(2.30)	9.1**	(4.86)
VETARMYNOTRN	0.30*	(1.59)	-0.16	(0.68)	-0.7	(0.31)	-4.9	(1.41)
VETARMYTRN	0.11	(0.56)	-0.15	(0.55)	-1.3	(0.50)	-1.2	(0.30)
VETOTHERNOTRN	0.10	(0.61)	0.13	(0.77)	-3.2	(1.56)	-3.3	(1.29)
VETOTHERTRN	0.18	(0.86)	-0.40@	(0.59)	-1.8	(0.66)	-4.0@	(0.40)
Constant	-0.92	(3.51)	0.78	(2.66)	-39.2	(11.88)	-10.2	(2.55)
$\bar{R}^2$	.26		.35		.45		.32	
F-ratio	36.11		19.85		86.49		18.66	
Number of respondents	1,754		632		1,754		632	
Dependent variable (mean, std. dev.)	3.79 1.63		2.92 1.31		39.2 24.4		23.3 18.8	

UNIVERSE: Employed respondents 19-29 years of age in 1971 who were not discharged from the armed forces prior to 1964.

a For definitions of variables, see Glossary.

b Variable does not enter this equation.

@ Coefficient is based on fewer than 25 respondents.

* Statistically significant at .10 level.

** Statistically significant at .05 level.

Table 6A-4 Regressions Relating Hourly Rate of Pay and Occupational Status in 1971 to Veteran Status and Other Selected Variables, by Race: Version II

(Absolute t-values in parentheses)

Explanatory variables[a]	Hourly rate of pay 1971 (dollars/hour)		Occupational status (Duncan Index)	
	WHITES	BLACKS	WHITES	BLACKS
EDPRE	0.23** (11.17)	0.14** (5.81)	4.5** (17.02)	2.4** (6.58)
EDPOST	0.82** (3.50)	-1.25[@] (2.10)	11.6** (3.83)	-3.3[@] (0.38)
OCCINF	0.03** (5.28)	0.02** (2.19)	0.4** (6.14)	0.2** (2.02)
HEALTH71	-0.21** (1.92)	-0.48** (2.95)	-1.4 (1.01)	4.6** (1.92)
EXPERPRE	0.11** (7.71)	0.01 (0.84)	0.2 (1.28)	-0.6** (2.53)
EXPERPOST	0.11** (3.51)	0.17** (3.60)	0.5 (1.20)	-0.9 (1.23)
TENR*71	0.01** (4.82)	0.01** (3.46)	0.1** (3.13)	0.1** (2.75)
TRAINCS71	0.29** (3.49)	0.17* (1.56)	-4.0 (3.66)	0.4 (0.22)
TRAINCC71	0.14 (0.82)	-0.29[@] (0.73)	8.7** (4.05)	6.9[@] (1.21)
TRAINCP71	0.26** (3.05)	0.26** (1.67)	9.4** (8.44)	6.6** (2.93)
TRAINCM71	0.07 (0.55)	0.34* (1.45)	10.6** (6.24)	16.4** (4.86)
SMSA71	0.30** (3.94)	0.41** (4.43)	2.6** (2.62)	2.4** (1.86)
SOUTH71	-0.45** (6.08)	-0.65** (6.73)	b	b
PUBLIC71	-0.40** (3.79)	0.24** (1.93)	3.2** (2.32)	9.3** (4.97)
VETOCCSAME	0.51** (2.20)	-1.16[@] (1.70)	1.8 (0.62)	10.4[@] (1.05)
VETOCCDIFF	0.12 (0.94)	0.03 (0.19)	-2.4 (1.46)	-3.6 (1.62)
Constant	-0.90 (3.43)	0.78 (2.68)	-39.1 (11.88)	-10.4 (2.61)
$\bar{R}^2$	0.27	0.35	0.45	0.33
F-ratio	40.85	22.48	98.29	21.38
Number of respondents	1,754	632	1,754	632
Dependent variable (mean, std. dev.)	3.79 1.63	2.92 1.31	39.2 24.4	23.3 18.8

UNIVERSE: See Appendix Table 6A.3.

a For definitions of variables, see Glossary.
b Variable does not enter this equation.
@ Coefficient is based on fewer than 25 respondents.
* Statistically significant at .10 level.
** Statistically significant at .05 level.

Table 6A-5 Regressions Relating Hourly Rate of Pay and Occupational Status in 1971 to Veteran Status and Other Selected Variables, by Race: Version III

(Absolute t-values in parentheses)

Explanatory variables[a]	Hourly rate of pay 1971 (dollars/hour)				Occupational status (Duncan Index)			
	WHITES		BLACKS		WHITES		BLACKS	
EDPRE	0.23**	(11.16)	0.14**	(5.91)	4.5**	(17.03)	2.4**	(6.58)
EDPOST	0.89**	(3.82)	-1.28@	(2.16)	11.7**	(3.92)	-5.6@	(0.64)
OCCINF	0.03**	(5.26)	0.01**	(2.16)	0.4**	(6.17)	0.2**	(2.01)
HEALTH71	-0.20**	(1.87)	-0.46**	(2.82)	-1.4	(0 .97)	4.8	(2.03)
EXPERPRE	0.11**	(7.61)	0.02	(1.11)	0.2*	(1.31)	-0.5	(2.18)
EXPERPOST	0.13	(4.20)**	0.14**	(2.80)	0.5*	(1.36)	-1.7	(2.35)
MILDURTOT71	0.002	(0.64)	0.007	(1.24)	-0.1	(1.38)	0.0	(0.41)
TENR*71	0.01**	(4.74)	0.01**	(3.49)	0.1**	(3.09)	0.1**	(2.85)
TRAINCS71	0.29**	(3.50)	0.18*	(1.59)	-3.9	(3.60)	0.7	(0.45)
TRAINCC71	0.14	(0.82)	-0.29@	(0.75)	8.7**	(4.05)	6.8@	(1.19)
TRAINCP71	0.26**	(3.01)	0.22*	(1.44)	9.4**	(8.46)	7.1**	(3.20)
TRAINCM71	0.06	(0.48)	0.34*	(1.45)	10.5**	(6.20)	16.3**	(4.79)
SMSA71	0.30**	(4.02)	0.41**	(4.37)	2.7**	(2.76)	2.4**	(1.83)
SOUTH71	-0.45**	(6.04)	-0.65**	(6.75)	b		b	
PUBLIC71	-0.42**	(3.89)	0.26**	(2.06)	3.2**	(2.31)	9.2**	(4.95)
Constant	-0.88	(3.39)	0.72	(2.48)	-39.4	(12.07)	-11.5	(2.97)
$\bar{R}^2$	.27		.35		.45		.32	
F-ratio	43.19		23.85		105.13		22.49	
Number of respondents	1,754		632		1,754		632	
Dependent variable (mean, std. dev.)	3.79 1.63		2.92 1.31		39.2 24.4		23.3 18.8	

UNIVERSE: See Appendix Table 6A.3.

a For definitions of variables, see Glossary.

b Variable does not enter this equation.

@ Coefficient is based on fewer than 25 respondents.

* Statistically significant at .10 level.

** Statistically significant at .05 level.

Table 6A-6 Regressions Relating Unemployment Experience in 1971 to Veteran Status and Other Selected Variables, by Race: Version I

(Absolute t-values in parentheses)

(Coefficients shown in percentage points)

Explanatory variables[a]	Probability of unemployment during 1971		Proportion of labor force time spent in unemployment	
	WHITES	BLACKS	WHITES	BLACKS
EDPRE	-2.8** (4.88)	-4.0** (4.10)	-1.0** (3.68)	-1.7** (3.78)
EDPOST	-9.2 (1.15)	28.4 (1.08)	-0.2 (0.05)	10.2 (0.85)
OCCINF	-0.2 (1.11)	0.3 (1.14)	-0.0 (0.65)	0.3 (2.52)
HEALTH71	0.5 (0.16)	24.0** (3.79)	2.8** (2.08)	14.8** (5.10)
EXPERPRE	-3.0** (8.12)	-3.4** (5.74)	-1.1** (6.42)	-1.6** (5.73)
EXPERPOST	-5.0** (4.85)	-9.7** (4.32)	-1.7** (3.58)	-2.6** (2.47)
TRAINCS71	-2.0 (0.85)	0.7 (0.15)	-2.0** (1.89)	2.9 (1.40)
TRAINCC71	-8.6** (1.78)	-1.4 (0.09)	-0.9 (0.41)	-3.5 (0.52)
TRAINCP71	-4.1* (1.61)	-5.9 (0.87)	-1.9** (1.67)	-6.3** (2.00)
TRAINCM71	-3.9 (1.05)	10.9 (1.01)	-1.6 (0.99)	-8.1* (1.63)
SMSA71	-3.6** (1.66)	5.7* (1.54)	-1.5* (1.48)	2.8** (1.67)
PUBLIC71	-7.4** (2.18)	-3.3 (0.55)	-2.2* (1.46)	-1.0 (0.37)
DISCHRG71	-9.3 (1.50)	-23.9 (1.91)	10.8** (3.88)	3.8 (0.66)
VETARMYNOTRN	11.4** (1.99)	-1.9 (0.19)	0.9 (0.34)	-5.6 (1.20)
VETARMYTRN	11.6** (1.97)	25.8** (2.11)	5.1** (1.91)	7.1 (1.27)
VETOTHERNOTRN	14.9** (2.85)	28.6** (3.24)	4.3** (1.83)	5.6* (1.37)
VETOTHERTRN	13.7** (2.04)	62.8** (2.10)	3.7 (1.23)	21.2* (1.55)
Constant	80.6 (11.33)	82.9 (7.63)	25.8 (8.04)	26.3 (5.30)
$\bar{R}^2$	.08	.09	.08	.10
F-ratio	10.37	5.04	10.57	5.52
Number of respondents	1,786	673	1,786	673
Dependent variable (mean, std. dev.)	22.7 41.9	34.4 47.6	6.8 18.9	10.8 21.8

UNIVERSE: Respondents 19-29 years of age and interviewed in 1971 who were not discharged from the armed forces prior to 1964 and who spent at least one week in the labor force in 1971.

a For definitions of variables, see Glossary.

* Statistically significant at .10 level.

** Statistically significant at .05 level.

Table 6A-7 Regressions Relating Unemployment Experience in 1971 to Veteran Status and Other Selected Variables, by Race: Version II

(Absolute t-values in parentheses)

(Coefficients shown in percentage points)

Explanatory variables[a]	Probability of unemployment during 1971				Proportion of labor force time spent in unemployment			
	WHITES		BLACKS		WHITES		BLACKS	
	Coeff.	(t-value)	Coeff.	(t-value)	Coeff.	(t-value)	Coeff.	(t-value)
EDPRE	-2.7**	(4.80)	-4.0**	(4.07)	-0.9**	(3.51)	-1.7**	(3.79)
EDPOST	-7.2	(0.92)	30.9	(1.17)	0.7	(0.19)	10.1	(0.84)
OCCINF	-0.2*	(1.28)	0.3	(0.99)	-0.1	(0.82)	0.3	(2.42)
HEALTH71	0.5	(0.16)	23.1**	(3.64)	2.8**	(2.07)	14.5**	(5.02)
EXPERPRE	-3.0**	(8.34)	-3.3**	(5.48)	-1.0**	(6.33)	-1.5**	(5.37)
EXPERPOST	-4.8**	(5.37)	-8.0**	(3.65)	-1.7**	(4.28)	-2.4**	(2.38)
MILDURTOT71	0.4**	(3.34)	0.6**	(2.22)	0.2**	(2.75)	0.2	(1.22)
TRAINCS71	-2.3	(0.99)	1.0	(0.22)	-2.2**	(2.06)	3.2*	(1.55)
TRAINCC71	-8.6**	(1.79)	-2.6	(0.18)	-0.9	(0.40)	-3.6	(0.53)
TRAINCP71	-4.4**	(1.76)	-4.4	(0.65)	-2.0**	(1.78)	-5.5**	(1.76)
TRAINCM71	-3.6	(0.99)	10.8	(1.00)	-1.5	(0.92)	-7.8*	(1.57)
SMSA71	-3.9**	(1.78)	7.0**	(1.91)	-1.5*	(1.51)	3.2**	(1.90)
PUBLIC71	-7.6**	(2.25)	-2.5	(0.42)	-2.3*	(1.48)	-0.9	(0.32)
DISCHRG71	-8.6	(1.49)	10.3	(0.88)	10.2**	(3.91)	6.5	(1.22)
Constant	81.4	(11.60)	82.6	(7.55)	25.5	(8.05)	25.8	(5.18)
$\bar{R}^2$	.08		.08		.09		.10	
F-ratio	12.75		5.35		13.07		6.25	
Number of respondents	1,786		673		1,786		673	
Dependent variable (mean, std. dev.)	22.7 41.9		34.4 47.6		6.8 18.9		10.8 21.8	

UNIVERSE: See Appendix Table 6A.6.

a For definitions of variables, see Glossary.

* Statistically significant at .10 level.

** Statistically significant at .05 level.

Table 6A-8 Regressions Relating Occupational Status in 1971 to Veterans' Self-reports of the Effect of Military Service on Civilian Career and Other Selected Characteristics, by Race

(Absolute t-values in parentheses)

Explanatory variables[a]	WHITES		BLACKS	
EDPRE	4.6**	(17.20)	2.4**	(6.64)
EDPOST	11.3**	(3.73)	-2.0[@]	(0.23)
OCCINF	0.4**	(6.17)	0.2**	(1.95)
HEALTH71	-1.2	(0.87)	4.5	(1.89)
EXPERPRE	0.3*	(1.37)	-0.6	(2.41)
EXPERPOST	0.4	(1.01)	-0.9	(1.29)
TENR*71	0.1**	(3.14)	0.1**	(2.67)
TRAINCS71	-4.0	(3.67)	0.4	(0.24)
TRAINCC71	8.6**	(3.98)	6.7[@]	(1.17)
TRAINCP71	9.3**	(8.36)	6.9**	(3.08)
TRAINCM71	10.5**	(6.19)	16.2**	(4.77)
SMSA71	2.6**	(2.71)	2.4**	(1.85)
PUBLIC71	3.0**	(2.16)	9.3**	(4.97)
VETHELPED	0.4	(0.19)	-1.8	(0.69)
VETHURT	-5.4**	(2.01)	-1.0[@]	(0.23)
VETNOEFFECT	-2.9	(1.29)	-6.9**	(2.20)
Constant	-39.8	(12.10)	-10.6	(2.65)
$\bar{R}^2$	.45		.33	
F-ratio	92.38		20.06	
Number of respondents	1,754		632	
Dependent variable (mean, std. dev.)	39.2 24.4		23.3 18.8	

UNIVERSE: Employed respondents 19-29 years of age in 1971 who were not discharged from the armed forces prior to 1964.

[a] For definitions of variables, see Glossary.

[@] Coefficient based on fewer than 25 respondents.

* Statistically significant at .10 level.

** Statistically significant at .05 level.

APPENDIX B

GLOSSARY

APPENDIX B

GLOSSARY

AGE __

A continuous variable representing age as of April 1, 19__ (depends on survey year).

BLACK

A binary variable indicating race of the respondent.

1 Black
0 White

%BLK ____

A series of binary variables denoting the percent of the respondent's high school student body that was black. The data on racial composition were unavailable for nonpublic schools.

%BLKLOW	1	0 to 20 percent black
	0	All others
%BLKMED	1	21 to 79 percent black
	0	All others
%BLKHIGH	1	80 or more percent black
	0	All others
NONPUBLSCH	1	Attended nonpublic high school and racial composition is not ascertained
	0	All others

COLLQUAL ____

A series of variables denoting the quality of college last attended, separately by amount of college completed. The variables are constructed as the products of variables denoting level of schooling completed (i.e., ED:COL__, ED:AA__, and ED:BA__) and a quality index which is the percentage of full time equivalent faculty with Ph.D. or equivalent degrees. The latter is derived from American Council on Education, American Junior Colleges (8th Edition) and American Universities and Colleges (10th Edition): Washington, D.C.: American Council on Education, 1968.

DEPENDTS __

The number of persons, excluding the respondent (and his wife) who are dependent upon the respondent for at least one-half of their support as of 19__.

DISCHRG71

A dummy variable indicating that the respondent was discharged from the armed forces in 1971.

1 Veteran discharged in 1971
0 All others (includes nonveterans and veterans discharged before 1971)

DUNC __

The Duncan Socioeconomic Index of the respondent's occupation as of 19__. See Duncan (1961) in references to Chapter II of this volume.

ΔDUNC __/__

The arithmetic difference between the Duncan Index scores of occupations in 19__ and 19__.

DUNCDWN __/__

A binary variable indicating that an occupation change between 19__ and 19__ resulted in a decrease in the Duncan Index.

1 Duncan Index of second job lower
0 Duncan Index of second job equal or higher

DUNCUP __/__

A binary variable indicating that an occupation change between 19__ and 19__ resulted in an increase in the Duncan Index.

1 Duncan Index of second job higher
0 Duncan Index of second job equal or lower

ED: ____

A series of binary variables denoting the educational attainment of respondents according to the highest level achieved as of 19__.

ED:EL __	Less than high school graduation
ED:HS __	High school graduation
ED:COL __	Some college, no degree
ED:AA __	College degree, associate level (usually two- or three-year degree)
ED:BA __	College degree, bachelor's level (e.g., BA, BS)
ED:MA __	College degree, master's level (e.g., MA, MS, MBA)
ED:PHD __	College degree, doctorate level (Ph.D., MD, JD, ED.D., DBA)
ED:<BA __	Some college and no degree, or associate level degree
ED:BA+ __	College degree, bachelor's level or above

EDCONGR ____

A measure of the congruity between educational goals and occupational goals held at the same time, constructed in the following manner. First, an educational standard is inferred for each occupational category in the classification scheme of the Census Bureau, based on information about the educational attainments of 25- to 34-year-old male incumbents of occupational categories. [See U.S. Bureau of the Census (1973), Table 8, pp. 143-77 in the references to Chapter II of this volume.] Standards take the form of a range of years of schooling. Second, a respondent's educational goal is compared to the educational standard for the respondent's expressed occupational goal.

EDCONGRHIGH	1	Educational goal "too high" for occupational goal
	0	All others
EDCONGRUENT	1	Educational goal consistent with educational standard
	0	All others
EDCONGRLOW	1	Educational goal "too low" for occupational goal
	0	All others

EDGOAL __

Educational goal of the respondent as of 19__, measured in years.

EDGOALDWN

A binary variable indicating that the respondent's educational goal changed downward either (a) between the first survey and the last year of his attendance in high school or (b) between the last year in high school and two years later.

1 Changed goal downward
0 Did not change goal downward

EDPOST

A binary variable indicating that the respondent completed at least one year of regular school or received an additional educational credential (diploma, degree) after being discharged from the armed forces.

1 Veteran with extra schooling after discharge
0 All others (includes nonveterans and veterans with no extra schooling after discharge)

EDPRE

A continuous variable measuring the highest grade completed by the respondent prior to entering the armed forces. Nonveterans receive the value of the highest grade completed as of the 1971 survey.

EDYRS __

A continuous variable measuring the highest grade of regular school completed by the respondent as of 19__.

ΔEDYRS __/__

The number of years of regular school completed between 19__ and 19__.

ΔEMPNA__

A binary variable indicating that the reason that the respondent left his 19__ employer could not be ascertained

1 Reason for leaving not ascertained
0 Left voluntarily or involuntarily

ΔEMPVOL__

A binary variable indicating that the respondent left his 19__ employer voluntarily

1 Left voluntarily
0 Left involuntarily or for a reason that was not ascertainable

ENCOUR

An index of encouragement by "significant others" (parents, teachers, peers) for the respondent to continue schooling beyond high school. For details see Chapter II, footnote 22.

ENRPOSTHS____

A series of binary variables denoting enrollment status of the respondent in the two years following the last year of high school.

ENRPOSTHS = 0	1	Not enrolled in college
	0	All others
ENRPOSTHS < 1	1	Attended college but did not complete a year
	0	All others
ENRPOSTHSC1	1	Completed one year of college and left
	0	All others
ENRPOSTHSC2	1	Completed one year of college and continued past first year, or completed two years
	0	All others

EXPER__

A measure of the potential length of experience in the civilian labor market as of 19__, measured by the number of months since last school attendance minus the number of months of active duty in the armed forces.

EXPER*__

A measure of the potential length of experience in the civilian labor market as of 19__, measured by the number of months since last school attendance minus the number of months of active duty in the armed forces. In this variable an exception is made whenever these rules result in a value lower than that obtained for TENR*__. Thus, experience gained prior to leaving school is also included whenever this represents a continuous period of employment with the 19__ employer.

EXPERHS___

A set of binary variables denoting work experience while going to high school, for those enrolled in high school in 1966.

EXPERHS0	1	Not working in survey week and worked fewer than 16 weeks during past 12 months
	0	All others
		Working in survey week (or, if not, worked more than 15 weeks during past 12 months) and . . .
EXPERHS1	1	Less than 15 hours per week
	0	All others
EXPERHS2	1	15 or more hours per week
	0	All others

EXPERPOST

A measure of the potential length of experience in the civilian labor market after military service. This variable is measured by the number of years since discharge minus the number of years enrolled in school after military service. Nonveterans receive the value zero.

EXPERPRE

A measure of the potential length of experience in the civilian labor market prior to military service. This variable is measured by the number of years between (1) last school attendance prior to military service and (2) entrance into the armed forces. For nonveterans, values represent the number of years since last school attendance.

FIELD:_____

A series of binary variables denoting the last field of study in which the respondent was enrolled as an undergraduate as of 19__.

FIELD:HUM__	(Humanities)
FIELD:EDU__	(Education)
FIELD:MAT__	(Mathematics)
FIELD:BUS__	(Business)
FIELD:SOC__	(Social sciences)
FIELD:SCI__	(Science)
FIELD:MED__	(Medicine)
FIELD:LAW__	(Law)
FIELD:ENG__	(Engineering)
FIELD:OTH__	(Other)

____FJ____

Refers to any characteristic of the respondent, measured as of the time of the first job after leaving school (i.e., rather than being measured as of a date, 19__).

GED __

A rating, based on the respondent's three-digit occupational category, which is designed to embrace "those aspects of education (formal and informal) which contribute to the worker's (a) reasoning development and ability to follow instructions, and (b) acquisition of "tool" knowledge, such as language or mathematical skills. It is education of a general nature [See Manpower Administration (1965), p. 651 in the references to Chapter II of this volume]. This rating is a continuous measure, zero through 18 years. See Scoville (1969), pp. 80-90, in the references to Chapter II of this volume.

GEDUP __/__

A binary variable indicating that the respondent changed occupations between 19__ and 19__ and that the change was to an occupation requiring at least 0.5 more years of education according to the GED score.
1 Changed to an occupation with a higher GED score
0 All others

GEOMOB __/__

A binary variable indicating that the respondent changed area of residence (SMSA or county) between 19__ and 19__.
1 Changed areas
0 All others

HEALTH __

A binary variable indicating the existence of work-limiting health problems as of 19__.
1 Health limitation
0 No limitation

HLTHLMT __/__

A binary variable indicating that the respondent had a work limitation lasting at least one year between 19__ and 19__.
1 Health limitation of one year's duration
0 All others

HSCURR: ____

A series of binary variables denoting the last high school curriculum in which the respondent was enrolled as of 19__. Major categories include:

HSCURR:COLL __	(College preparatory)
HSCURR:CML __	(Commercial - vocational)
HSCURR:VOC __	(Vocational but not commercial)
HSCURR:GEN __	(General)

HSQUAL

An ordinal index of the quality of the last high school attended, ranging in value from 1 to 11. For the latter, see Kohen (1973) in the references to Chapter II of this volume.

HSQUAL ____	A series of variables denoting quality of high school last attended, separately by level of school completed. The variables are constructed to be the products of items for level of schooling completed as of 19__ (i.e., ED:EL__ and ED:HS__) and an index of high school quality.
INCPERCAP__	Income per capita (in dollars) in the respondent's parental family as of 19__.
IQ	A standardized mental ability measure based on pooling scores from a variety of achievement, aptitude, and intelligence tests. $\bar{X} = 100$, $\sigma = 16$. The original data were provided by the last (as of 1968) secondary school attended by the respondent. See Kohen (1973) Appendix A in the references to Chapter II of this volume.
LOCALUNRATE__	Unemployment rate in the local labor market in which the respondent lived in 19__, either computed by the annual average unemployment rate from current population survey data, or (for those not living in an area covered by CPS data) estimated to be 4.1 percent, which is the average annual rate for areas of less than 300,000 population based on the 1970 Census of Population. In the chapter on unemployment, the variable LOCALUNRATE t is further defined as follows: for respondents who did not move between the 1970 and 1971 surveys, this refers to the area of residence as of 1971; for respondents who did move, the detailed work history was searched to obtain the date of the last move, after which the rate for the 1971 area is used and before which the rate for the 1970 area is used.
LOWVOL__	A binary variable denoting that the job separation in question involved little or no volition on the part of the worker and operationally includes the following types of reasons for ending a job: layoff, plant closing, end of temporary job, discharge, quit due to health or disability, closing own (failing) business, institutionalization and induction into the armed forces. 1 Job separation of low volition 0 All others
MARRIED__	A binary variable denoting that the respondent was married, wife present, as of 19__.

MILDURTOT __

Length of service on active duty in the armed forces, measured in months, as of 19__.

OCC __

A variable representing the three-digit occupational category of the respondent's occupation as of 19__.

OCCASPDUNC __

Occupational aspiration of the respondent as of 19__, measured in terms of the Duncan Socioeconomic Index of occupations for the "kind of work you would like to be doing when you are 30". A value is not assigned to responses of "don't know".

OCCASPUP

A binary variable indicating that the respondent's 1966 occupational aspiration both (1) was congruent with his education and (2) had a Duncan Index score higher than his 1966 occupation. For the definition of congruence see EDCONGR.

1 Aspires upwardly realistically
0 All others

OCCINF

Extent of labor market (occupational) information measured by score on the test administered in the 1966 survey. Scores range from 0 - 56 with $\overline{X} \approx 33$ and $\sigma \approx 9$.

PESSIMST __

A measure of the lack of confidence with which a respondent held his educational goal in 19__, measured by the difference between his reported goal and the amount of schooling he actually expected to complete.

PUBLIC __

A binary variable indicating that the respondent's job in 19__ was in the public (government) sector.

1 Public employee
0 Private employee

READING

An index of the availability of reading materials in the home when the respondent was age 14, based on newspapers (1 point), magazines (1 point) and/or library card (2 points); yielding a range of values from 0 to 4.

RES14 ____

A series of binary variables used to indicate the kind of area in which the respondent resided when age 14:

RES14RUR 1 Rural
0 All others

RES14SM 1 Small or medium-sized community of less than 100,000
0 All others
RES14LG 1 Large city of more than 100,000 or suburb
0 All others

SAT66

A categorical variable indicating the respondent's attitude toward his job at the time of the 1966 interview.

1 Dislike it very much
2 Dislike it somewhat
3 Like it fairly well
4 Like it very much

SIBLINGS

The total number of brothers and sisters of the respondent as of 1966.

SES

An index of the socioeconomic level of the respondent's parental family based on:

(1) Father's education
(2) Father's occupation when respondent was 14
(3) Mother's education
(4) Education of oldest older sibling
(5) Availability of reading material in the home when respondent was 14

A continuous variable with scores ranging from 0.0 to 16.0. For construction see Kohen (1973) in the references to Chapter II in this volume.

SES*

An index of the socioeconomic level of the respondent's parental family, based only on items 1, 2, and 3 from the variable "SES" above, which are included separately in models using SES*.

SMSA __

A binary variable indicating residence in an SMSA in 19__.

1 Resided in an SMSA
0 Resided outside of an SMSA

SOUTH __

A binary variable indicating residence in the South (any of 16 states or Washington, D.C.) in 19__.

1 South
0 All others

SVP __

A rating, based on the respondent's three-digit occupational category, which represents the time needed to achieve "average performance in a specific job-worker situation" (Manpower Administration, 1965, p. 652) and which encompasses training received in vocational education, apprenticeship programs, in-plant and on-the-job training, and experience in other jobs. This rating is a continuous measure, zero through nine years. See Scoville (1969), pp. 80-90, in the references to Chapter II of this volume.

SVPUP __/__

A binary variable indicating that the respondent changed occupations between 19__ and 19__ and that the change was to an occupation requiring at least 0.5 more years of specific vocational preparation. See Scoville (1969) in the references to Chapter II of this volume.

1 Changed to an occupation with a higher SVP score
0 All others

TENR __

Length of service with the employer in 19__, measured in months and limited to time spent after leaving school.

TENR* __

Length of service with employer of record in 19__, measured in months and including time worked for the employer prior to leaving school.

TRAIN ____ __

A series of binary variables denoting that the respondent completed (or, if not completed, reportedly "used") at least one postschool formal training program, as of 19__ or between two designated survey years.

Source	Any	Professional or technical	Managerial	Clerical	Skilled manual
Armed forces	TRAINMIL __	TRAINMP __	TRAINMM __	TRAINMC __	TRAINMS __
Civilian	TRAINCIV __	TRAINCP __	TRAINCM __	TRAINCC __	TRAINCS __
Any	TRAINANY __	TRAINAP __	TRAINAM __	TRAINAC __	TRAINAS __

UNCOMIT

A binary variable indicating that the respondent's answer to the hypothetical loss of his job (in 1966) suggested weak commitment to his 1966 occupation (i.e., he would change occupations or seek training in another occupation).

1 Would change occupations or train for another type of work
0 All others

UNREALSTC__

A measure of the lack of realism of the educational goal reported by a respondent. In constructing this variable a regression analysis was performed relating educational attainment to background and ability measures using data on youth not enrolled in school. The results of this analysis were used to generate a "predicted" level of schooling for those still in school.

1 Educational goal is at least 16 years of schooling and predicted value is less than 12.5 years
0 All others

VETANY__

A binary variable indicating whether the respondent had served in the armed forces for six months or more as of 19__.

VETARMYNOTRN

A binary variable designating veterans who received no training (other than basic or combat training) while serving in the Army.

1 Army veteran who received no training
0 All others (includes nonveterans and veterans of other branches of the armed forces)

VETARMYTRAIN

A binary variable designating veterans who received training other than basic or combat training) while serving in the Army.

1 Army veteran who received training
0 All others (includes nonveterans and veterans of other branches of the armed forces)

VETHELP

A binary variable indicating that the respondent was a veteran and reported that military service helped his civilian career.

1 Military service helped civilian career
0 All others

VETHURT

A binary variable indicating that the respondent was a veteran and reported that military service hurt his civilian career.

1 Military service hurt civilian career
0 All others

VETNOEFFECT

A binary variable indicating that the respondent was a veteran and reported that military service had no effect on his civilian career.

1 Military service had no effect on civilian career
0 All others

VETOCCDIFF

A binary variable designating veterans whose longest military occupation and 1971 civilian occupation were not in the same (one-digit) major occupation group.

1 Veteran whose military and civilian occupations were different
0 All others

VETOCCSAME

A binary variable designating veterans whose longest military occupation and 1971 civilian occupation were in the same (one-digit) major occupation group.

1 Veteran whose military and civilian occupations were the same
0 All others

VETOTHRNOTRN

A binary variable designating veterans who received no training (other than basic or combat training) while serving in a branch of the armed forces other than the Army.

1 Veteran of Air Force, Coast Guard, Marines or Navy who received no training
0 All others (includes nonveterans and Army veterans)

VETOTHRTRAIN

A binary variable designating veterans who received training (other than basic or combat training) while serving in a branch of the armed forces other than the Army.

1 Veteran of Air Force, Coast Guard, Marines or Navy who received training
0 All others (includes nonveterans and Army veterans)

WAGE __

Hourly rate of pay on current job (19 __), based on the response to "How much do you usually earn at this job before deductions?" If a time unit other than an hour was reported, the value was computed by first converting the reported figure into a weekly rate and then dividing by the number of hours usually worked per week on the job. It was not computed (i.e., assigned "NA") if the respondent reported piecework or a daily rate, was self-employed, or worked without pay in a family business.

WAGE%Δ __/__

Relative (percentage) change in hourly rate of pay between 19__ and 19__.

WKSUNEMP __/__

Number of weeks respondent was unemployed between 19__ and 19__.

WKSWORK __/__	Number of weeks respondent worked between 19__ and 19__. Also, WKSWORKPOSTHS denotes the number of weeks worked in the two year period following the last year in high school.
YRSHS	Number of years since 1966 in which the respondent was enrolled in high school.

APPENDIX C

TESTS FOR EQUALITY IN REGRESSIONS PERFORMED ON DIFFERENT SAMPLES

APPENDIX C

TESTS FOR EQUALITY IN REGRESSIONS PERFORMED ON DIFFERENT SAMPLES*

This short, nontechnical discussion indicates some unresolved problems arising in the application of several techniques for investigating racial differences in the achievement of labor market success. The conclusion reached here is that existing theory and available methodology do not permit unambiguous answers to questions concerning racial differences, even when hypotheses seem to be stated clearly.

The discussion is organized as follows. We introduce three techniques that are used for testing the equality of regressions performed for different samples: the analysis of covariance, the Chow test,[1] and a test of the reduction in unexplained sums of squares. Each is applied in its traditional manner to data on the wages of young men, the same data used in Chapter III. Results of the tests are discussed individually and in comparison with one another, revealing a lack of consistency. Finally, we review those details of the tests that account for the inconsistencies, revealing that both technical and conceptual issues are involved. In brief, the findings are: (1) the straightforward application of available formulas for the Chow test is not correct when weighted data are analyzed; (2) a single test of all the regression coefficients in a model may suggest no differences between the samples, while separate tests of individual coefficients may suggest significant differences; and (3) in general, results of a separate test of an individual regression coefficient (or any subset of coefficients) will vary according to how the remaining variables in the model are treated. As a result, it is clear that several analysts who are using the same data with the same intent of investigating inter-sample differences may legitimately reach widely differing conclusions.

To begin, there are several published works that may serve as introduction to the relevant techniques. Kullback and Rosenblatt describe a method for analyzing "regressions in k categories,"[2] which can be applied to testing equality of regressions on different samples (e.g., on whites and on blacks). In an oft-cited article, Chow discusses the case in which "having estimated a linear regression with p coefficients, one may wish to test whether m additional observations belong to the same regression";[3] and Fisher extends this with "testing the equality of sets of regression coefficients in two or more regressions."[4] In addition, many statistics textbooks present the analysis of covariance, which can be used to "study regressions in multiple classifications."[5]

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*This appendix was written by John T. Grasso and Steven C. Myers.

[1] Chow (1960).

[2] Kullback and Rosenblatt (1957), p. 67.

Any one of these may serve as a point of departure, for each appears to contain methodology useful to researchers interested in analyzing differences in a process estimated with a multiple regression equation. All of the approaches have a common basis in the concept of the general linear hypothesis. Even so, recent attempts toward a synthesis of the methodological techniques and their interpretations[6] have elicited substantial criticism[7] at the same time that they have been adopted in textbooks on methodology.[8]

In fact, although the mechanics underlying these techniques appear to be straightforward, their empirical application involves several problems. One example is the problem of multicollinearity.[9] Several others confront users of covariance analysis in investigating differences between groups that relate to "treatment effects."[10] A useful review of these problems in the context of analyzing educational effects has been prepared by Pedhazur.[11]

Aside from these, however, specific problems arise when applying the tests to an empirical example devised to ascertain the presence of racial differences in the attainment of labor market success. Our example is based on data used in the analysis of wages of young men reported in Chapter III of this volume. The model presented there includes among the explanatory variables a set of factors hypothesized to contribute to the wage attainment process (Chapter III, Table 3.1). The parameters of the model were estimated for whites and blacks separately (Table 3.2). The object of current interest is whether this process differs between young white men and young black men.

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[3] Chow (1960), p. 591.

[4] Fisher (1970), p. 361.

[5] Snedecor and Cochran (1967), p. 420.

[6] Gujarati (1970a and 1970b).

[7] Cramer (1972).

[8] See, for example, Johnston (1972), pp. 206-07.

[9] Gordon (1968).

[10] See, for example, Cain (1975); Goldberger (1972a and 1972b); McLean et al. (1975).

[11] Pedhazur (1975).

As was done in the above, all of the foregoing analyses are based on weighted data. The weight for each respondent is a function of his probability of selection from the population, and is used to permit estimates of population parameters.[12]

In order to simplify the present exposition, we advance several assumptions, recognizing that each is debatable and that adopting different assumptions can lead to even greater variation in findings on racial differences than is considered here. First, we assume that a single equation, linear, additive model is adequate for explaining the variation in wages of young men.[13] Second, we assume that there are no explanatory variables omitted that might bias results obtained for the variables that are included. Third, we assume that the model applies for both whites and blacks.[14]

To illustrate the problems arising in this type of analysis, several tests are performed, the first of which is based upon the analysis of covariance, as presented by Cramer.[15] Conceiving of the explanatory variables as "covariates" and of race as a "treatment," we obtain the results appearing in Table C.1. The findings are that (1) there is no support for the existence of an "interaction" between treatment and the set of covariates, and (2) there is support for the existence of a "treatment effect."[16] The interpretation is that the effects on wages of schooling, work experience, and other variables do not differ between the races, but that controlling for all of these, there is a constant difference between white and black young men's wages. However, from casual observation of the slopes and intercepts in the equations for whites and blacks (Table 3.2), it does appear that the effects of some of the explanatory variables differ by race. Moreover, the meaning of a "treatment effect" is hardly clear in the present context. Perhaps the approach used here is best applied to other types of statistical designs, such as experimental designs in which "treatment effects" are more clearly applicable.

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[12] That is, weighting is not performed to account for the presence of heteroskedasticity. Nevertheless, the problems discussed in the text would apply to any weighting scheme.

[13] An alternative model is presented by Mincer (1974). A recent article by Blinder (1973) has prompted an exchange (i.e., Rosenzweig and Morgan, 1976; Blinder, 1976; Rosenzweig, 1976) concerning appropriate functional forms that is useful to review as an illustration of some considerations that bear on the suitability of alternative functional forms. Other considerations are given in Eckaus (1973), Hauser (1973), and Thurow (1974). We show above that different conclusions concerning the existence of racial differences can also occur even if a single form is used.

[14] Actually, from regressions reported in Chapter III above, there is some indication that the model is not equally suitable for the two samples. The residual variance for blacks is different than that for whites (0.92 and 1.89, respectively, in the wage analyses reported in Table 3.2 above). However, the difference may not be large enough to pose a significant problem; see Toyoda (1974) and Schmidt and Sickles (forthcoming).

[15] Cramer (1972).

Other methods permit the testing of equality of any or all of the coefficients in the model and are thus more flexible than the one suggested by Cramer. One of these was presented originally by Chow and amplified by Fisher.[17] Table C.2 contains results of the straightforward application of this technique to the question of whether the entire regression differs by race.[18] According to these results, the null hypothesis of equality should be rejected; paraphrasing Chow, we can say that wages among blacks are not governed by the same relationship as are wages among whites. However, this conclusion is called into question below.

The third analysis performed is a test of significance for the reduction in unexplained sums of squares that is attributable to the inclusion of variables involving race. These include a binary variable for race, which allows the intercept to vary, and a set of interaction terms that are the products of this binary variable and the other variables in the equation, which allows each slope coefficient to vary. The results of this analysis suggest that there is no difference by race (Table C.3).[19]

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[16] In other words, a hypothesis of equality of slope coefficients (allowing intercepts to vary) was not rejected and a second hypothesis of equal intercepts (assuming common slopes) was rejected. The tests were calculated from information from two regressions performed on a combined sample of whites and blacks.

[17] Chow (1960); Fisher (1970).

[18] This is a test for differences in slopes or intercepts calculated from information from three regressions (i.e., one for whites alone, a second for blacks alone, and a third for whites and blacks combined).

[19] This test was calculated from information from a stepwise regression procedure applied to the combined sample of whites and

The results reported in Tables C.2 and C.3, although they appear to be outcomes of tests of the same hypothesis, directly conflict. Indeed, these tests are equivalent and can produce identical results when unweighted data are analyzed. When data are weighted, the straightforward application of the Chow test is not correct, and the results shown in Table C.2 are not meaningful.[20]

Ignoring this complication does not eliminate the problem that covariance analysis (Table C.1) and error reduction analysis (Table C.3) yield conflicting results, regardless of whether weighted or unweighted data are used. The most obvious source of difference between these two is the fact that different hypotheses were examined. In the covariance analysis, all slopes were tested for equality; then equality of intercepts was examined in a second test. In the error reduction test, equality of slopes and intercepts was tested in one operation.

The application of the covariance analysis reported above, in which only one relation (i.e., the intercept) was tested alone, can be replicated for each other variable in the wage model. Two versions of this exercise are presented in Table C.4: the first assumes that the intercepts are equal and the second allows the intercepts to vary. The number of cases in which the calculated F-ratio exceeds the tabular F calls into question the result reported in Table C.1. In that table, the sole racial difference was attributed to the intercept term, whereas the numbers shown in Table C.4 suggest that the sole difference might just as well be attributed to a difference in the effects of any of several other variables in the model: work experience, tenure, IQ, etc. Indeed, in a variant of the model that includes both a dummy variable and a race-experience interaction variable, the former contributes far less to the model than does the latter (t-values of +0.14 and -1.76, respectively).

The point of the foregoing discussion is straightforward. It is unlikely that a single analyst investigating racial differences with a given body of data will perform all conceivable tests. It is possible, however, that several analysts studying racial differences, examining the same data, and using the same model will produce conflicting findings. For example, the analyst testing the entire equation (Table C.2) would conclude there are no significant racial differences, while other analysts could point to significant racial differences in the intercept term, in the effect of general work

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and blacks, where the dummy variable for race and the race-interaction terms entered after the other variables in the model.

[20] The performance of a weighted regression involves weight normalization procedures that complicate across-equation comparisons such as that implied by the sum (B+C) shown in Table C.2. A form of the Chow test derived for the case of weighted data is available from the authors upon request and is equivalent to the procedure used in constructing Table C.3.

experience, in the effect of firm-specific work experience, etc. Thus, conflicts in findings may stem from which effects are selected for testing.

Finally, from the results of the regression estimated for the combined sample of whites and blacks (including an intercept term and a complete set of race-interaction terms), we observe that the interaction term representing the racial difference in the effect of work experience fails to reach significance at a conventional level (i.e., t=-1.22 in Table C.5). This apparently conflicts with the previous result which indicated that the racial difference in the effect of work experience is significant, whether or not the intercept is allowed to vary (Table C.4). In the test based on the t-value, all coefficients are allowed to vary. Thus, the outcome of a test for intergroup equality of any given effect also depends upon assumptions concerning all other variables in the model.

The important implication of this discussion is that the outcomes of investigations of differences in relationships among race, sex or other groups depend critically on the specific nature of the statistical test. This includes the specification of (1) the variables whose effects are to be tested, (2) the variables whose effects are assumed to be equal, and (3) the variables whose effects are allowed to vary. Of course, these specifications may be indicated by well-developed theory, and the implementation of the necessary tests can be facilitated by the availability of adequate sources of data. However, given the inadequacies of existing data and the less-than-complete development of theory, it is neither surprising nor unreasonable to find that the outcomes of such studies conflict with one another. This necessarily reduces the confidence with which any particular set of findings and policy implications can be accepted.

REFERENCES

Blinder, A.S. "On Dogmatism in Human Capital Theory." *Journal of Human Resources* 11 (Winter 1976):8-22.

__________. "Wage Discrimination: Reduced Form and Structural Estimates." *Journal of Human Resources* 8 (Fall 1973):436-55.

Cain, G.G. "Regression and Selection Models to Improve Nonexperimental Comparisons." In Carl A. Bennett and Arthur A. Lumsdaine (eds.), *Evaluation and Experiment, Some Critical Issues in Assessing Social Programs*. New York: Academic Press, 1975.

Chow, G.C. "Tests of Equality Between Sets of Coefficients in Two Linear Regressions." *Econometrica* 28 (1960):591-605.

Cramer, E.M. "Significance Tests and Tests of Models in Multiple Regression." *American Statistician* 26 (1972):26-30.

Eckaus, R.S. *Estimating the Returns to Education: A Disaggregated Approach*. Berkeley, California: The Carnegie Foundation for the Advancement of Teaching, 1973.

Fisher, F.M. "Tests of Equality Between Sets of Coefficients in Two Linear Regressions: An Expository Note." *Econometrica* 38 (1970):361-66.

Goldberger, A.S. *Selection Bias in Evaluating Treatment Effects: Some Formal Illustrations*. Discussion Paper 123-72. Madison, Wisconsin: Institute for Research on Poverty, 1972a.

__________. *Selection Bias in Evaluating Treatment Effects: The Case of Interaction*. Discussion Paper 129-72. Madison, Wisconsin: Institute for Research on Poverty, 1972b.

Gordon, R.A. "Issues in Multiple Regression." *American Journal of Sociology* 73 (March 1968):592-616.

Gujarati, D. "Use of Dummy Variables in Testing for Equality Between Sets of Coefficients in Linear Regressions: A Note." *American Statistician* 24 (1970a):50-52.

__________. "Use of Dummy Variables in Testing for Equality Between Sets of Coefficients in Linear Regressions: A Generalization." *American Statistician* 24 (1970b):18-22.

Hauser, R.M. "Discussion of 'The Definition and Impact of College Quality.'" In L.C. Solmon and P.J. Taubman (eds.), *Does College Matter?* New York: Academic Press, 1973.

Johnston, J. *Econometric Methods* (Second Edition). New York: McGraw-Hill Book Co., 1972.

Kullback, S., and Rosenblatt, H.M. "On the Analysis of Multiple Regression in k Categories." *Biometrika* 44 (1957):67-83.

McLean, J.E.; Ware, W.B.; and McClave, J.T. "How Analysis of Covariance Can Yield Misleading Results in Educational Experiments--A Monte Carlo Study." In *American Statistical Association Proceedings of the Social Statistics Section 1975*. Washington, D.C.: American Statistical Association, 1975.

Mincer, J. *Schooling, Experience, and Earnings*. New York: National Bureau of Economic Research, 1974.

Pedhazur, E.J. "Analytic Methods in Studies of Educational Effects." In F.N. Kerlinger (ed.), *Review of Research in Education* vol. 3. Itasca, Illinois: Peacock Publishers, 1975.

Rosenzweig, M.R. "Nonlinear Earnings Functions, Age and Experience: A Nondogmatic Reply and Some Additional Evidence." *Journal of Human Resources* 11 (Winter 1976):23-27.

Rosenzweig, M.R., and Morgan, J. "Wage Discrimination: A Comment." *Journal of Human Resources* 11 (Winter 1976):3-7.

Schmidt, P., and Sickles, R. "Some Further Evidence on the Use of the Chow Test under Heteroskedasticity." *Econometrica* (in press).

Snedecor, G.W., and Cochran, W.G. *Statistical Methods*, 6th. Edition. Ames, Iowa: The Iowa State University Press, 1967.

Suits, D.B. "Use of Dummy Variables in Regression Equations." *Journal of the American Statistical Association* 52e (December 1957).

Thurow, L.C. "Measuring the Economic Benefits of Education." In M.S. Gordon (ed.) *Higher Education and the Labor Market*. New York: McGraw-Hill Book Co., 1974.

Toyoda, T. "Use of the Chow Test Under Heteroskedasticity." *Econometrica* 42 (1974):601-08.

Table C.1 Tests for Racial Differences in the Wage Equation, Based on Analysis of Covariance[a]

Effect	Sum of squares	D.F.	Mean squares	F-ratio
A. Test of differential regression				
Treatment effect only	50.92	1	50.92	
Addition of covariates	953.19	20	47.66	
Addition of treatment-covariate interactions	9.56	19	0.50	0.27
Residual	2,612.51	1,419	1.84	
B. Test of treatment effect				
Covariates only	994.81	20	49.74	
Addition of treatment	9.30	1	9.30	5.11**
Residual	2,622.07	1,438	1.82	

SOURCE: Regressions shown in Table 3.2.

[a] Analysis based on Cramer (1972).

** Statistically significant at .05 level.

Table C.2 Tests for Racial Differences in the Wage Equation, Based on the Chow Test[a]

Effect	Error sums of squares	D.F.
A. Regression on white and black samples combined	2,631.37	1,439
B. Regression for white sample only	2,289.23	1,212
C. Regression for black sample only	190.27	207
F-ratio:[b] $\frac{[A-(B+C)] / p}{(B+C) / (n+m-2p)} = \frac{151.87 / 21}{2479.50 / 1419} = \frac{7.23}{1.75} = 4.14^{***}$		

[a] Analysis based on method provided by Chow (1960) for testing all coefficients (i.e., slopes and intercepts).

[b] In this calculation, "p" is the number of regressors, while "n" and "m" are the numbers of whites and blacks, respectively.

*** Statistically significant at .01 level.

Table C.3 Tests for Racial Differences in the Wage Equation, Based on Reduction in Unexplained Sums of Squares

Effect	Error sums of squares	D.F.	Mean squares	F-ratio
A. Regression performed on whites and blacks combined	2,631.37	20	-	-
B. Addition of dummy variable for race and race-interaction variables[a]	18.86	20	0.94	0.51
C. Residual	2,612.51	1,419	1.84	

[a] The "race-interaction" variables are created as the product of the dummy variable for race and each of the other variables in the model (e.g., BLACK x EXPER71).

Table C.4 Tests for Racial Differences in the Effect of Each Variable in the Wage Equation

Variable	Intercepts assumed equal F-ratio[a]	Intercepts allowed to vary F-ratio[b]
Schooling		
ED:HS71	4.93**	0.69
ED:COL71	0.02	0.92
ED:AA71	0.02	0.01
ED:BA71	0.23	0.02
ED:PHD71	0.02	0.10
Training		
TRAINCP71	0.45	0.09
TRAINCM71	0.06	0.13
TRAINCC71	0.02	0.14
TRAINCS71	0.40	0.06
TRAINMIL71	0.24	0.00$^+$
Experience		
EXPER71	8.19***	3.10*
TENR71	5.61**	1.30
MILDURTOT71	0.96	0.00$^+$
Personal		
IQ	5.10**	0.04
OCCINF	4.79**	0.00$^+$
HEALTH71	0.04	0.00$^+$
SES	4.60**	0.09
Environment		
SMSA71	3.21*	0.24
SOUTH71	4.19**	0.60
Constant	5.10**	-

a These are F-ratios with 1 and 1,438 degrees of freedom.
b These are F-ratios with 1 and 1,437 degrees of freedom.
0^+ Indicates nonzero value rounded to zero.
* Statistically significant at .10 level.
** Statistically significant at .05 level.
*** Statistically significant at .01 level.

Table C.5 Regression Results for Labor Market Success in 1971

(Absolute t-values in parentheses)

Explanatory variables	Dependent variable: WAGE71			
	Combined sample		Combined sample and race interactions	
Schooling				
ED:EL71	(omitted)		(omitted)	
ED:HS71	0.23**	(1.90)	0.28**	(2.16)
ED:HS71 x Black			-0.22	(0.54)
ED:COL71	0.51**	(3.21)	0.56**	(3.34)
ED:COL71 x Black			0.06	(0.09)
ED:AA71	0.60@	(1.85)	0.67@	(1.95)
ED:AA71 x Black			-0.11@	(0.08)
ED:BA71	1.24**	(6.70)	1.31**	(6.75)
ED:BA71 x Black			-0.31@	(0.40)
ED:MA71	1.54**	(5.53)	1.62**	(5.66)
ED:MA71 x Black			(omitted)	
ED:PHD71	1.41@	(4.28)	1.49@	(4.40)
ED:PHD71 x Black			0.59@	(0.24)
Training				
TRAINCP71	0.17**	(1.96)	0.17**	(1.88)
TRAINCP71 x Black			0.05	(0.12)
TRAINCM71	0.07	(0.52)	0.06	(0.46)
TRAINCM71 x Black			-0.32@	(0.05)
TRAINCC71	0.04	(0.25)	0.20	(0.11)
TRAINCC71 x Black			0.29@	(0.24)
TRAINCS71	0.31**	(3.51)	0.29**	(3.11)
TRAINCS71 x Black			0.16	(0.39)
TRAINMIL71	0.28**	(1.94)	0.24**	(1.66)
TRAINMIL71 x Black			0.02@	(0.03)
Experience				
EXPER71	0.011**	(8.12)	0.012**	(8.33)
EXPER71 x Black			-0.006	(1.22)
TENR71	0.006**	(3.49)	0.005**	(3.11)
TENR71 x Black			-0.002	(0.29)
MILDURTOT71	0.002	(0.44)	0.002	(0.60)
MILDURTOT71 x Black			-0.002	(0.13)

(Table continued on next page.)

Table C.5 Continued

Explanatory variables	Dependent variable: WAGE71			
	Combined sample		Combined sample and race interactions	
Personal characteristics				
IQ	0.004*	(1.39)	0.003	(0.96)
IQ x Black			-0.008	(0.64)
OCCINF	0.03**	(5.34)	0.03**	(4.77)
OCCINF x Black			0.001	(0.05)
HEALTH71	-0.39@	(3.42)	-0.40**	(3.34)
HEALTH71 x Black			-0.10	(0.20)
SES	0.03	(1.23)	0.02	(0.99)
SES x Black			0.01	(0.08)
Environment				
SMSA71	0.52**	(6.75)	0.54**	(6.85)
SMSA71 x Black			0.10	(0.24)
SOUTH71	-0.35**	(4.33)	-0.32**	(3.72)
SOUTH71 x Black			-0.19	(0.60)
Black			0.79	(0.63)
Constant	0.43	(1.19)	0.59	(1.47)
$\bar{R}^2$	.26		.25	
F-ratio	27.20		13.76	
Number of respondents	1,460		1,460	
Dependent variable[a] (mean, std. dev.)	3.89 1.58		3.89 1.58	

UNIVERSE: Nonstudent males 19 to 29 years of age in 1971 who were employed full time for wages or salary in 1971.

[a] For means and standard deviations of the explanatory variables, see Table C.6.

@ Coefficient based on fewer than 25 respondents.

* Statistically significant at .10 level.

** Statistically significant at .05 level.

Table C.6 Means and Standard Deviations for Regression Results in Table C.5

Explanatory variables	Mean	Std. dev.
Schooling		
ED:EL71	(omitted)	(omitted)
ED:HS71	0.48	0.50
ED:HS71 x Black	0.04	0.19
ED:COL71	0.19	0.40
ED:COL71 x Black	0.01	0.09
ED:AA71	0.01	0.12
ED:AA71 x Black	0.00^{+}	0.03
ED:BA71	0.14	0.35
ED:BA71 x Black	0.00^{+}	0.07
ED:MA71	0.03	0.16
ED:MA71 x Black	(omitted)	(omitted)
ED:PHD71	0.02	0.13
ED:PHD71 x Black	0.00^{+}	0.02
Training		
TRAINCP71	0.25	0.44
TRAINCP71 x Black	0.01	0.11
TRAINCM71	0.09	0.28
TRAINCM71 x Black	0.00^{+}	0.07
TRAINCC71	0.04	0.21
TRAINCC71 x Black	0.00^{+}	0.03
TRAINCS71	0.22	0.42
TRAINCS71 x Black	0.01	0.10
TRAINMIL71	0.14	0.35
TRAINMIL71 x Black	0.00^{+}	0.07
Experience		
EXPER71	53.90	39.29
EXPER71 x Black	3.99	18.03
TENR71	26.41	27.60
TENR71 x Black	1.38	7.46
MILDURTOT71	6.51	13.12
MILDURTOT71 x Black	0.40	3.46

(Table continued on next page.)

Table C.6 Continued

Explanatory variables	Mean	Std. dev.
Personal characteristics		
IQ	101.62	13.99
IQ x Black	5.64	21.54
OCCINF	36.24	7.26
OCCINF x Black	2.02	7.82
HEALTH71	0.11	0.31
HEALTH71 x Black	0.01	0.08
SES	10.51	1.90
SES x Black	0.60	2.32
Environment		
SMSA71	0.66	0.48
SMSA71 x Black	0.05	0.23
SOUTH71	0.29	0.45
SOUTH71 x Black	0.03	0.17
Number of respondents	1,460	1,460

UNIVERSE: See Table C.5.
0^+ Indicates nonzero value rounded to zero.

APPENDIX D

SAMPLING, INTERVIEWING AND ESTIMATING PROCEDURES

APPENDIX D

SAMPLING, INTERVIEWING AND ESTIMATING PROCEDURES

The Survey of Work Experience of Young Men is one of four longitudinal surveys sponsored by the Employment and Training Administration of the U.S. Department of Labor. Taken together, these four surveys constitute the National Longitudinal Surveys (NLS). Each of the four NLS samples was designed by the Bureau of the Census to represent the civilian noninstitutional population of the United States at approximately the time of the initial survey. Because of attrition from the samples over the years of the surveys, they cannot be construed to be precisely representative of the civilian noninstitutional population in any year after the first.

Sample Design

The cohort is represented by a multistage probability sample located in 235 sample areas comprising 485 counties and independent cities representing every state and the District of Columbia. The 235 sample areas were selected by grouping all of the nation's. counties and independent cities into about 1,900 primary sampling units (PSU's), and further forming 235 strata of one or more PSU's that are relatively homogeneous according to socioeconomic characteristics. Within each of the strata a single PSU was selected to represent the stratum. Within each PSU a probability sample of housing units was selected to represent the civilian noninstitutional population.

Since one of the survey requirements was to provide separate reliable statistics for blacks, households in predominantly black enumeration districts (ED's) were selected at a rate approximately three times that for households in predominantly white ED's. The sample was designed to provide approximately 5,000 respondents-about 1,500 blacks and 3,500 whites.

An initial sample of about 42,000 housing units was selected, and a screening interview took place in March and April 1966. Of this number, about 7,500 units were found to be vacant, occupied by persons whose usual residence was elsewhere, changed from residential use, or demolished. On the other hand, about 900 additional units were found which had been created within existing living space or had been changed from what was previously nonresidential space. Thus, 35,360 housing units were available for interview, of which usable information was collected for 34,622 households, a completion rate of 98.0 percent.

Following the initial interview and screening operation, the sample was rescreened in the fall of 1966, immediately prior to the first Survey of Work Experience of Males 14 to 24. For the rescreening operation, the sample was stratified by the presence or absence of a 14- to 24-year-old male in the household. The rescreened sample was used to designate 5,713 males age 14-24 to be interviewed for the Survey of Work Experience. These were sampled differentially within four strata: whites in white ED's (i.e., ED's which contained predominantly white households), nonwhites in white ED's, whites in nonwhite ED's and nonwhites in nonwhite ED's.

The Field Work

Over 300 interviewers were assigned to each of the surveys. Since many of the procedures and the labor force concepts used in the NLS were similar to those employed in the Current Population Survey (CPS), the Bureau of the Census used only interviewers with CPS experience.

For the 1966 survey, a two-stage training program was used to provide specific instruction to the interviewers. First, supervisors from the Bureau's 12 regional offices were trained in Washington; they in turn trained the interviewers and office clerks assigned to the survey in their regions. Each trainee was provided with a "verbatim" training guide prepared by the Bureau staff and reviewed by the Employment and Training Administration and the Center for Human Resource Research of The Ohio State University. The guide included not only lecture material, but a number of structured practice interviews to familiarize the interviewers with the questionnaire. One-day interviewer training sessions were also held prior to the 1967, 1968 and 1970 surveys.

In addition to training, a field edit was instituted to insure adequate quality. In the 1966 survey, this consisted of a "full edit" of the first several schedules returned by each interviewer and a partial edit of the remaining questionnaires from each interviewer's assignment. The full edit consisted of reviewing the questionnaires from beginning to end, to determine if the entries were complete and consistent and whether the "skip" instructions were being followed. The interviewer was contacted by phone concerning minor problems and, depending on the nature of the problem, was either merely told of the error or asked to contact the respondent for additional information or for clarification. For more serious problems the interviewer was retrained either totally or in part, and the questionnaire was returned for completion.

If problems arose, the complete edit was continued until the supervisor was satisfied that the interviewer was doing a complete and consistent job. The partial edit simply checked to determine that the interviewer had not inadvertently skipped any part of the questionnaire which should have been filled. Any questionnaire which failed the partial edit was returned to the interviewer for completion. In 1967, 1968, 1969, 1970 and 1971 surveys, a "full edit" was used on all the schedules.

Estimating Methods

The estimating procedure used in the NLS involved multistage ratio estimates.

Basic weight · The first step was the assignment to each sample case of a basic weight consisting of the reciprocal of the final probability of selection. The probability reflects the differential sampling which was employed by color within each stratum.

Noninterview adjustment In the initial survey the weights for all those interviewed were adjusted to the extent needed to account for persons for whom no information was obtained because of absence, refusal, or unavailability for other reasons. This adjustment was made separately for the following groupings: Census region, place of residence, and color.

Ratio estimates The distribution of the population selected for the sample may differ somewhat, by chance, from that of the nation as a whole with respect to residence, age, color, and sex. Since these population characteristics are closely correlated with the principal measurements made from the sample, the measurements can be substantially improved when weighted appropriately to conform to the known distribution of these population characteristics.[1] This was accomplished in the initial survey through two stages of ratio estimation.

The first stage of ratio estimation takes into account differences at the time of the 1960 Census in the distribution by color and residence of the population as estimated from the sample PSU's and that of the total population in each of the four major regions of the country. Using 1960 Census data, estimated population totals by color and residence for each region were computed by appropriately weighting the Census counts for PSU's in the sample. Ratios were then computed between these estimates (based on sample PSU's) and the actual population totals for the region as shown by the 1960 Census.

In the second stage, the sample proportions were adjusted to independent current estimates of the civilian noninstitutionalized population by age and color. These estimates were prepared by carrying forward the most recent Census data (1960) to take account of subsequent aging of the population, mortality, and migration between the United States and other countries.[2] The adjustment was made by color within four age groupings.

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[1] See Bureau of the Census Technical Paper No. 7, The Current Population Survey--A Report on Methodology, 1963, for a more detailed explanation of the preparation of the estimates.

[2] See Bureau of the Census, Current Population Reports, Series P-25, No. 352, November 18, 1966, for a description of the methods used in preparing these independent population estimates.

Weights for subsequent years As a result of the above steps, each sample person has a weight which remains unchanged throughout the life of the study. The universe of study was thus fixed at the time of interview for the first survey. Since no reweighting of the sample was made after subsequent surveys, the group of interviewed persons is an unbiased sample of the population group in existence at the time of the first survey only. The number of young men with whom initial interviews were conducted was 5,225.

Coding and Editing

Most of the data on the interview schedules required no coding, since a majority of the answers were numerical entries or in the form of precoded categories. However, clerical coding was necessary for the occupational and industrial classification of the several jobs referred to in the interview. The Census Bureau's standard occupation and industry codes used for the CPS were employed for this purpose. Codes for other open-ended questions were assigned by the Census Bureau, in some cases on the basis of guidelines developed by the Center for Human Resource Research from tallies of subsamples of the returns.

The consistency edits for the interview schedules were completed on the computer by the Census Bureau. For the parts of the questionnaire which were similar to the CPS, a modified CPS edit was used. For all other sections, separate consistency checks were performed. None of the edits included an allocation routine which was dependent on averages or random information from outside sources, since such allocated data could not be expected to be consistent with data from previous or subsequent surveys. However, where the answer to a question was obvious from others in the questionnaire, the missing answer was entered on the tape. To take an example from the intial (1966) survey, if item 52 ("If for some reason you were permanently to lose your present job tomorrow, what would you do?") was blank, but legitimate entries appeared in 53a, b and c ("What kind of courses or training would you take?," "Where would you enroll for such schooling?," and "How would you finance this schooling?"), a "Return to school; get training" was inserted in 52. In this case, only if 52 was marked "Return to school," could 53a, b and c be filled; therefore, the assumption was made that either the punch card operator failed to punch the item or the interviewer failed to mark it.

APPENDIX E

INTERVIEW SCHEDULES

FOR REFERENCE USE ONLY

FORM LGT-201
(8-9-66)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

NATIONAL LONGITUDINAL SURVEYS

SURVEY OF WORK EXPERIENCE OF MALES 14-24

1966

NOTICE – Your report to the Census Bureau is confidential by law (Title 13 U.S. Code). It may be seen only by sworn Census employees and may be used only for statistical purposes.

1. Control No.
2. Line number of respondent ______
3. Name
4. Address
5. Interviewed by
Code

RECORD OF CALLS

Date	Time	Comments
1.	a.m. p.m.	
2.	a.m. p.m.	
3.	a.m. p.m.	
4.	a.m. p.m.	

RECORD OF INTERVIEW

Interview time		Date completed	Comments
Began	Ended		
a.m. p.m.	a.m. p.m.		

NONINTERVIEW REASON

1 ☐ Temporarily absent
2 ☐ No one home
3 ☐ Refused
4 ☐ Other – *Specify* ______

TRANSCRIPTION FROM HOUSEHOLD RECORD CARD

Item 2 – Identification code

______

Item 13 – Marital status

1 ☐ Married spouse present
2 ☐ Married spouse absent
3 ☐ Widowed
4 ☐ Divorced
5 ☐ Separated
6 ☐ Never married

Item 15 – Age

______

Item 16 – Race

1 ☐ White
2 ☐ Negro
3 ☐ Other

Item 22 – Tenure

1 ☐ Owned or being bought
2 ☐ Rented
3 ☐ No cash rent

Items 23–25 – Land usage

1 ☐ A
2 ☐ B
3 ☐ C
4 ☐ D
5 ☐ E

If respondent has moved, enter new address

A. EDUCATION AND TRAINING

1. Are you attending or enrolled in regular school?	1 ☐ Yes – *Ask 2* 2 ☐ No – *SKIP to 4*
2. What grade are you attending?	1 Elem. . . . 1 2 3 4 5 6 7 8 – *SKIP to Section D, page 8* 2 High . . . . 1 2 3 4 3 College . . 1 2 3 4 5 6+
3. Since you turned 14, were you ever out of school for an entire school year?	0 ☐ Respondent is 14 – *SKIP to Check Item A* 1 ☐ Yes – *SKIP to 8* x ☐ No – *SKIP to Check Item A*
4. What is the highest year of regular school you have completed?	0 None . . . . 0 – *SKIP to Section E, page 10* 1 Elem. . . . 1 2 3 4 5 6 7 8 2 High . . . . 1 2 3 4 3 College . . 1 2 3 4 5 6+
5. How old were you when you last attended regular school?	Age ________
6. Why would you say you decided to end your education at that time?	0 ☐ Completed 4 or more years of college 1 ☐ Had to work 2 ☐ Couldn't afford college 3 ☐ Lack of ability 4 ☐ Disliked school 5 ☐ Military service 6 ☐ No particular reason 7 ☐ Other – *Specify* ________
7. Between the time you turned 14 and ________ (age mentioned in 5), **were you ever out of school for an entire school year or more?**	1 ☐ Yes – *Ask 8* x ☐ No – *SKIP to Check Item A*
8. How old were you? *(If more than once, ask about most recent time.)*	Age ________
9. Why were you out of school at that time?	
10. Why did you return to school?	
CHECK ITEM A	x ☐ Enrolled in school or a college graduate (Q. 1 or 4) – *SKIP to 17, page 5* 1 ☐ All others – *Ask 11a*
11a. Considering all the experience you have had in working or looking for jobs since leaving school, do you feel that not having more education has hurt you in any way?	1 ☐ Yes 2 ☐ No
b. Why do you feel this way?	(If "Yes") 1 ☐ Can't get as good a job 2 ☐ Difficult to get a job ☐ Other – *Specify* ________ (If "No") 6 ☐ Have a good job 7 ☐ Wouldn't be making as much money ☐ Other – *Specify* ________
12a. If you could, would you like to get more education or training?	1 ☐ Yes – *Ask b* 2 ☐ No – *SKIP to 13a*
b. What kind of courses or training would you like to take?	1 ☐ Technical (vocational) training – *Specify type* ________ 2 ☐ Complete high school 3 ☐ Go to college 4 ☐ Other – *Specify* ________
c. Do you expect that you actually will get this education or training?	1 ☐ Yes . . . . . . **When?** ________ 2 ☐ No . . . . **Why not?** ________ 3 ☐ Don't know

A. EDUCATION AND TRAINING – Continued

13a. Aside from regular school, did you ever take a program in a business college or technical institute such as drafting, electronics training, etc.?	1 ☐ Yes – *Ask b* 2 ☐ No – *SKIP to 14a*
b. Why did you decide to get more training?	
c. What type of training did you take?	
d. How long did this training last?	Months_______________
e. How many hours per week did you spend on this training?	1 ☐ 1–4 3 ☐ 10–14 5 ☐ 20 or more 2 ☐ 5–9 4 ☐ 15–19
f. Did you finish or complete the program?	1 ☐ Yes – *SKIP to h* 2 ☐ No – *Ask g* 3 ☐ Still going on – *SKIP to 14a*
g. Why didn't you complete the program?	
h. Do you use this training on your present (last) job?	1 ☐ Yes 2 ☐ No 3 ☐ Never worked
14a. Aside from regular school, did you ever take a full-time program lasting six weeks or more at a company training school?	1 ☐ Yes 2 ☐ No – *SKIP to 15a*
b. What type of training did you take?	
c. How long did this training last?	Months_______________
d. How many hours per week did you spend on this training?	1 ☐ 1–4 3 ☐ 10–14 5 ☐ 20 or more 2 ☐ 5–9 4 ☐ 15–19
e. Did you finish or complete this program?	1 ☐ Yes – *SKIP to g* 2 ☐ No – *Ask f* 3 ☐ Still going on – *SKIP to 15a*
f. Why didn't you complete the program?	
g. Do you use this training on your present (last) job?	1 ☐ Yes 2 ☐ No 3 ☐ Never worked
15a. Aside from regular school, did you ever take apprenticeship training or any other vocational or technical training (NOT counting on-the-job training given informally)?	1 ☐ Yes – *Ask b* 2 ☐ No – *SKIP to 16a*
b. Why did you decide to get more training?	
c. What type of training did you take?	
d. How long did this training last?	Months_______________
e. How many hours per week did you spend on this training?	1 ☐ 1–4 3 ☐ 10–14 5 ☐ 20 or more 2 ☐ 5–9 4 ☐ 15–19
f. Did you finish or complete this program?	1 ☐ Yes – *SKIP to h* 2 ☐ No – *Ask g* 3 ☐ Still going on – *SKIP to 16a*
g. Why didn't you complete the program?	
h. Do you use this training on your present (last) job?	1 ☐ Yes 2 ☐ No 3 ☐ Never worked

A. EDUCATION AND TRAINING – Continued

16a. Since you stopped going to school full time, have you taken any additional general courses in a regular school, such as English, math or science?	1 ☐ Yes – *Ask b* × ☐ No – *SKIP to 17*	
b. Why did you decide to get more education?		
c. What type of course did you take?		
d. How long did this course last?	Months ______	
e. How many hours per week did you spend on this course?	1 ☐ 1–4 2 ☐ 5–9 3 ☐ 10–14 4 ☐ 15–19 5 ☐ 20 or more	
f. Did you finish or complete this program?	1 ☐ Yes – *SKIP to h* 2 ☐ No – *Ask g* 3 ☐ Still going on – *SKIP to 17*	
g. Why didn't you complete the program?		
h. Do you use this education on your present (last) job?	1 ☐ Yes 2 ☐ No 3 ☐ Never worked	
17. Have you ever served in the U.S. Armed Forces?	1 ☐ Yes – **Which branch?** 1 ☐ Navy 2 ☐ Army 3 ☐ Air Force 4 ☐ Marines 5 ☐ Coast Guard × ☐ No – *SKIP to 22a*	
18. How did you enter the Armed Forces?	1 ☐ Drafted 2 ☐ Enlisted as a regular 3 ☐ Entered through OCS, ROTC, Service Academy 4 ☐ Other – *Specify* ______	
19. How many months were you on active duty in the Armed Forces?	Months ______	
20. How old were you when you were separated from active service?	Years ______	
21a. Other than basic training, what kinds of training did you receive while you were in the Armed Forces? *(If more than 2, enter those 2 the respondent feels were most important.)* *(Ask b–d for both kinds of training)*	1. ______ 0 ☐ None – *SKIP to e*	2. ______
b. Did you finish or complete this program?	1 ☐ Yes 2 ☐ No	1 ☐ Yes 2 ☐ No
c. How long did this training last?	1. Months ______	2. Months ______
d. Do you use this training on your present (last) job?	1 ☐ Yes 2 ☐ No 3 ☐ Never worked	1 ☐ Yes 2 ☐ No 3 ☐ Never worked
e. What military occupation did you have for the longest time?		
f. Were you an officer or enlisted man at that time?	1 ☐ Commissioned or Warrant Officer 2 ☐ Enlisted man *(SKIP to 23)*	
22a. Have you ever tried to enter Active Military Service?	1 ☐ Yes – *Ask b* 2 ☐ No – *SKIP to Section B*	
b. Why were you not accepted?	1 ☐ Turned down without being examined or tested 2 ☐ Failed both physical and written test 3 ☐ Failed physical examination 4 ☐ Failed written test 5 ☐ Not accepted for other reasons 6 ☐ Don't know reason	

B. HIGH SCHOOL EXPERIENCE

23a. What is the name of the high school you attend (last attended)?	____________________ x ☐ Never attended high school – *SKIP to Section E, page 10*
b. What is this high school's address?	Street City | County State | ZIP code
c. Is this school public or private?	1 ☐ Public 2 ☐ Private
d. In what years have you been (were you) enrolled there? . . .	From __________ To __________
e. Are (were) you enrolled in a vocational curriculum, a commercial curriculum, college preparatory or a general curriculum (during your last year in high school)? . .	1 ☐ Vocational 2 ☐ Commercial } **What did you specialize (are you specializing) in?** 3 ☐ College preparatory __________ 4 ☐ General __________
CHECK ITEM B	1 ☐ Respondent has completed one or more years of college (Q. 2 or 4) – *SKIP to Section C* x ☐ Respondent has completed less than one year of high school – *SKIP to Section D, page 8* 2 ☐ All others – *Ask 24a*
24a. What high school subject did you enjoy (have you enjoyed) the most?	____________________ 0 ☐ None – *SKIP to 25a*
b. What is the main reason you enjoyed (have enjoyed) . . .?	1 ☐ Interested in it 2 ☐ Find it easy 3 ☐ Do well in it 4 ☐ Prepares for future job or career 5 ☐ Important for non-vocational reasons 6 ☐ Other – *Specify* __________
25a. What high school subject did you dislike (have you disliked) the most?	____________________ 0 ☐ None – *SKIP to 26a*
b. What is the main reason you disliked (have disliked) . . .?	1 ☐ Difficult; hard work 4 ☐ Boring 2 ☐ Felt it a waste of time 5 ☐ Other – *Specify* 3 ☐ Do poorly in it __________
In your last full year in high school: **26a. How many hours per week, on the average, did you spend doing your homework?**	0 ☐ None 2 ☐ 5–9 4 ☐ 15–19 1 ☐ 1–4 3 ☐ 10–14 5 ☐ 20 or more
b. Where did you normally do most of your homework?	1 ☐ School library or study hall 4 ☐ Other – *Specify* 2 ☐ At home __________ 3 ☐ At friend's home __________
c. Were there any conditions at this place which made it hard for you to study?	1 ☐ Yes – *Ask d* 2 ☐ No – *SKIP to e*
d. What were these conditions?	1 ☐ Noise (distractions) 2 ☐ Lacks necessary facilities (desk, room, etc.) 3 ☐ Other – *Specify* __________
e. Did you take part in any extra-curricular activities at school, such as, sports, dramatics, publications, music, or clubs?	1 ☐ Yes – *Ask f* 2 ☐ No – *SKIP to 27*
f. How many hours per week, on the average, did you spend on these activities?	1 ☐ 1–4 3 ☐ 10–14 5 ☐ 20 or more 2 ☐ 5–9 4 ☐ 15–19
g. What was your favorite extra-curricular activity?	1 ☐ Sports 4 ☐ Music 2 ☐ Publications 5 ☐ Other clubs 3 ☐ Dramatics 6 ☐ Other – *Specify* __________

B. HIGH SCHOOL EXPERIENCE – Continued

27. When you were not involved in high school activities or studying, what activity took up most of your extra time during your last full high school year?	1 ☐ Non-school related sports 2 ☐ Hobby 3 ☐ Reading	4 ☐ Work for pay 5 ☐ Other – *Specify* ________
28. All things considered, how do you feel about your high school experience?	**Did you (do you) –** 1 ☐ **like it very much?** 2 ☐ **like it fairly well?** 3 ☐ **dislike it somewhat?** 4 ☐ **dislike it very much?**	

C. COLLEGE EXPERIENCE

CHECK ITEM C	× ☐ Respondent has never attended college (Q. 2 or 4) – *SKIP to Section D* 1 ☐ Other – *Ask 29a*

29a. What are the names of all the colleges you have attended?	*ASK FOR EACH SCHOOL ATTENDED*			
	b. When were you enrolled there?		**c. Where is this school located?**	
Name of college	From	To	City	State
1.				
2.				
3.				
4.				

d. What degree did you receive? *(If more than one, record the most recent)*	________ 0 ☐ Did not receive degree – *SKIP to g*	
e. In what field did you receive your degree?	________	
f. Why did you decide to major in (field of study mentioned in 29e)?	1 ☐ Interested in it 2 ☐ Do well in it 3 ☐ Advised to do so	4 ☐ Good job possibilities 5 ☐ Other – *Specify* ________
g. What is (was) the full-time tuition per year at (most recent school given in 29a)?	$ ________	
h. Did (do) you have a scholarship, fellowship, assistantship, or other type of financial aid while enrolled at (most recent school given in 29a)?	1 ☐ Yes – *Ask i*	2 ☐ No – *SKIP to k*
i. What kind?	1 ☐ Scholarship or fellowship 2 ☐ Assistantship (teaching, research, etc.) 3 ☐ Loan 4 ☐ Other – *Specify* ________	
j. How much was it?	$ ________	
k. Why did you decide to continue your education beyond high school?	1 ☐ College degree necessary for his work 2 ☐ College degree necessary for success 3 ☐ Wanted more education 4 ☐ Avoid military service 5 ☐ Other – *Specify* ________	

CHECK ITEM D	0 ☐ Respondent has not completed one year of college (Q. 2 or 4) – *SKIP to 35, page 8* 1 ☐ Other – *Ask 30a*

30a. What field of study in college did you enjoy (have you enjoyed) the most?	________
b. What is the main reason you enjoyed (have enjoyed) . . . ?	1 ☐ Interested in it 2 ☐ Find it easy 3 ☐ Do well in it 4 ☐ Prepares for future job or career 5 ☐ Important for non-vocational reasons 6 ☐ Other – *Specify* ________

C. COLLEGE EXPERIENCE – *Continued*

31a. What field of study in college did you dislike (have you disliked) the most?	0 ☐ None – *SKIP to 32*
b. What is the main reason you disliked (have disliked) . . . ?	1 ☐ Difficult 2 ☐ Felt it a waste of time 3 ☐ Does poorly in it 4 ☐ Boring 5 ☐ Other – *Specify*
32. All things considered, how do you feel about your college experience?	**Did (do) you –** 1 ☐ **like it very much?** 2 ☐ **like it fairly well?** 3 ☐ **dislike it somewhat?** 4 ☐ **dislike it very much?**
CHECK ITEM E	× ☐ Respondent is attending college (Q. 2) – *SKIP to 35* 1 ☐ Other – *Ask 33*
33. Would you like to receive more education?	0 ☐ Yes – *SKIP to 35* × ☐ No – *SKIP to Section E*

D. EDUCATIONAL GOALS OF THOSE ENROLLED IN SCHOOL

CHECK ITEM F	1 ☐ Respondent is enrolled in school (Q. 1) – *Ask 34a* × ☐ Other – *SKIP to Section E*

34a. How much more education would you like to get?
(If "None," mark current grade and follow appropriate skip pattern)

	High School (1)	College (2)
0 ☐ Less than high school *(Ask b)*	☐ 1 year ☐ 2 years ☐ 3 years } *Ask b* ☐ 4 years – *SKIP to c*	☐ 2 years (complete junior college or equivalent) ☐ 4 years (graduate from 4-year college) ☐ 6 years (obtain Master's degree or equivalent) ☐ 7 + years (obtain Ph.D. or professional degree) (M.D., Law, etc.) } *SKIP to d*

b. Why don't you want to complete high school?	
c. What do you expect to do when you leave school?	1 ☐ Go to work 2 ☐ Military service 3 ☐ Other – *Specify* } *SKIP to Section E*
d. What college would you like to attend?	Name Location (City and State) 0 ☐ Undecided
e. What field of study would you like to take in college? . . .	0 ☐ Don't know – *SKIP to 36a*
f. Why would you like to go into this field of study?	1 ☐ Prepares for vocation I'm interested in 2 ☐ Prepares for vocation that pays well 3 ☐ Other – *Specify* } *SKIP to 36a*

35. How much more college education would you like to get?

- ☐ 2 years (complete junior college or equivalent)
- ☐ 4 years (graduate from 4-year college)
- ☐ 6 years (obtain Master's degree or equivalent)
- ☐ 7 + years (obtain Ph.D. or professional degree) (M.D., Law, etc.)

NOTES

D. EDUCATIONAL GOALS OF THOSE ENROLLED IN SCHOOL – Continued

36a. As things now stand, how much more education do you think you will actually get?

High School (1)	College (2)
☐ 1 year	☐ 2 years (complete junior college or equivalent)
☐ 2 years	☐ 4 years (graduate from 4-year college)
☐ 3 years	☐ 6 years (obtain Master's degree or equivalent)
☐ 4 years	☐ 7 + years (obtain Ph.D. or professional degree) (M.D., Law, etc.)

CHECK ITEM G

Amount recorded in 36a is:

1 ☐ Same or greater than amount given in 34a or 35 – *Ask 36b*
2 ☐ Less than amount given in 34a or 35 – *Ask 36c*

b. How will you finance this additional education? . . . .

1 ☐ Scholarship
2 ☐ Loan
3 ☐ Parents
4 ☐ Work
5 ☐ Don't know, not sure
6 ☐ Other – *Specify* ____________

(SKIP to Section E)

c. Why do you think you will actually get less education than you would like to? . . . .

1 ☐ Too expensive; lack of sufficient funds
2 ☐ Difficulty in getting into college
3 ☐ Military obligation
4 ☐ Have to go to work
5 ☐ Other – *Specify* ____________

While answering Section D was another person present?

☐ Yes ☐ No – *Go to Section E*

Would you say this person influenced the respondent's answers?

☐ Yes ☐ No

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E. CURRENT LABOR FORCE STATUS

37. What were you doing most of LAST WEEK –

working
going to school
or something else?

1 ☐ WK – Working – *SKIP to 38b*
2 ☐ J – With a job but not at work
3 ☐ LK – Looking for work
4 ☐ S – Going to school
5 ☐ U – Unable to work – *SKIP to 41a, page 11*
6 ☐ OT – Other – *Specify*

____

38c. Do you USUALLY work 35 hours or more a week at this job?

1 ☐ Yes – **d. What is the reason you worked less than 35 hours LAST WEEK?**

2 ☐ No – **e. What is the reason you USUALLY work less than 35 hours a week?**

(Mark the appropriate reason)

01 ☐ Slack work
02 ☐ Material shortage
03 ☐ Plant or machine repair
04 ☐ New job started during week
05 ☐ Job terminated during week
06 ☐ Could find only part-time work
07 ☐ Labor dispute
08 ☐ Did not want full-time work
09 ☐ Full-time work week under 35 hours
10 ☐ Attends school
11 ☐ Holiday (legal or religious)
12 ☐ Bad weather
13 ☐ Own illness
14 ☐ On vacation
15 ☐ Too busy with housework, personal business, etc.
16 ☐ Other – *Specify*

____

(If entry in 38d or 38e, SKIP to 42a on page 11 and enter job worked at last week.)

38a. Did you do any work at all LAST WEEK, not counting work around the house?

1 ☐ Yes 2 ☐ No – *SKIP to 39a*

b. How many hours did you work LAST WEEK at all jobs? . . . . ______

CHECK ITEM H

Respondent worked –

1 ☐ 49 hours or more – *SKIP to 42a on page 11 and enter job worked at last week*
2 ☐ 1–34 hours – *Ask c–e*
3 ☐ 35–48 hours – *Ask f–h*

f. Did you lose any time or take any time off from work LAST WEEK for any reason such as illness, holiday, or slack work?

1 ☐ Yes – **How many hours did you take off?** ______
2 ☐ No

NOTE: Correct item 38b if lost time not already deducted; if item 38b is reduced below 35 hours, ask items 38c–e, otherwise skip to 42a.

g. Did you work any overtime or extra hours LAST WEEK?

1 ☐ Yes – **How many extra hours did you work?** . . . . . . ______
2 ☐ No

NOTE: Correct item 38b if extra hours not already included and skip to 42a.

h. Did you work at more than one job or for more than one employer LAST WEEK?

1 ☐ Yes 2 ☐ No

NOTE: Find out whether hours on extra jobs were included in item 38b; if not, correct.
(SKIP to 42a)

(If "J" in 37, skip to 39b)

39a. Even though you did not work LAST WEEK, do you have a job (or business)?

1 ☐ Yes – *Ask b*
x ☐ No – *SKIP to 40a*

b. Why were you absent from work LAST WEEK?

1 ☐ Own illness
2 ☐ On vacation
3 ☐ Bad weather
4 ☐ Labor dispute
5 ☐ New job to begin within 30 days – *Ask 40c(2)*
6 ☐ Temporary layoff (less than 30 days) } *Ask 40c(3)*
7 ☐ Indefinite layoff (more than 30 days or no definite recall date) } *Ask 40c(3)*
8 ☐ School interfered
9 ☐ Other – *Specify*

____

c. Are you getting wages or salary for any of the time off LAST WEEK?

1 ☐ Yes
2 ☐ No
3 ☐ Self-employed

d. Do you usually work 35 hours or more a week at this job?

1 ☐ Yes 2 ☐ No

(Go to 42a and enter job held last week.)

NOTES

E. CURRENT LABOR FORCE STATUS – Continued

(If "LK" in item 37, skip to 40b)

40a. Have you been looking for work during the past 4 weeks?

1 ☐ Yes   X ☐ No – *SKIP to 41a*

b. What have you been doing in the last 4 weeks to find work?

(Mark all methods used; do not read list)

0 ☐ Checked with school employment service (or counselor)
1 ☐ Checked with public employment agency
2 ☐ Checked with private employment agency
3 ☐ Checked directly with employer
4 ☐ Placed or answered ads
5 ☐ Checked with friends or relatives
6 ☐ Other – *Specify: For example, MDTA, union, or professional register, etc.*

____

7 ☐ Nothing – *SKIP to 41a*

c. (1) How many weeks have you been looking for work?

(2) How many weeks ago did you start looking for a job?

(3) How many weeks ago were you laid off?

Number of weeks ______________

d. Have you been looking for full- or part-time work?

1 ☐ Full time   2 ☐ Part time

e. Is there any reason why you could not take a job LAST WEEK?

1 ☐ Yes – *Check reason*
  1 ☐ Needed at home
  2 ☐ Temporary illness
  3 ☐ School
  4 ☐ Other – *Specify* ______________

2 ☐ No

f. When did you last work at a full- or part-time job or business lasting two consecutive weeks or more?

1 ☐ 1961 or later
  Month __________ Year __________ } *SKIP to 42a and enter last job*
2 ☐ Before 1961

3 ☐ Never worked 2 weeks or more
4 ☐ Never worked at all } *SKIP to Section H, page 17*

41a. When did you last work at a regular full- or part-time job or business lasting two consecutive weeks or more?

0 ☐ Never worked at all
X ☐ Never worked 2 weeks or more } *SKIP to 45a*
1 ☐ Before 1961
2 ☐ 1961 or later ______________ *(Month and year)*

b. Why did you leave that job?

1 ☐ Personal, family reasons
2 ☐ Health reasons
3 ☐ School
4 ☐ SEASONAL job completed
5 ☐ Slack work or business conditions
6 ☐ TEMPORARY nonseasonal job completed
7 ☐ Unsatisfactory work arrangement (hours, pay, etc.)
8 ☐ Other – *Specify* ______________

(SKIP to 45a)

42a. For whom did you work? (Name of company, organization, or other employer)

____

b. Where is . . . located?

City ______________

State ______________

c. What kind of work were you doing? (For example: civil engineer, stock clerk, typist, farmer, etc.)

____

d. What kind of business or industry is this? (For example: TV and radio manufacturers, retail shoe store, State Labor Department, farm, etc.)

____

e. Were you –

1 ☐ **P – an employee of PRIVATE company, business, or individual for wages, salary, or commission?**
2 ☐ **G – a GOVERNMENT employee (Federal, State, county, or local)?** } *Ask f*
3 ☐ **O – SELF-EMPLOYED in OWN business, professional practice, or farm? Is this business incorporated?**
  ☐ Yes   ☐ No
4 ☐ **WP – Working WITHOUT PAY in family business or farm?** } *SKIP to 43a*

f. How much do (did) you usually earn at this job before deductions?

$ __________ per __________

(If amount given per HOUR, record dollars and cents; otherwise round to the nearest dollar)

43a. How did you find out about this job?

0 ☐ School employment service (or counselor)
1 ☐ Public employment agency
2 ☐ Private employment agency
3 ☐ Employer
4 ☐ Newspaper ads
5 ☐ Friends or relatives
6 ☐ Other – *Specify* ______________

b. When did you start working at this job or business?

__________ *(Year)* or (if 1966) __________ *(Month)*

E. CURRENT LABOR FORCE STATUS – Continued

CHECK ITEM I	1 ☐ Respondent is in Labor Force Group A (WK in 37, or "Yes" in 38a or 39a) and entry in 43b is before October 1965 – *Ask 44a* 2 ☐ Respondent is in Labor Force Group A and entry in 43b is October 1965 or later – *SKIP to 44c* x ☐ All others – *SKIP to Section F*
44a. Have you ever done any other kind of work for (name of employer in 42a)?	1 ☐ Yes – *Ask b* 2 ☐ No – *SKIP to g*
b. What kind of work were you doing a year ago at this time?	______________________ *(SKIP to g)*
c. Were you working a year ago at this time?	1 ☐ Yes – *Ask d* x ☐ No – *SKIP to Section F*
d. For whom did you work then?	
e. What kind of business was this?	
f. What kind of work were you doing?	
g. Would you say that the work you are doing now requiries more skill than the work you were doing a year ago?	1 ☐ More 2 ☐ Less 3 ☐ The same amount
h. Would you say that you have more responsibility in the work you are doing now than in the work you were doing a year ago?	1 ☐ More 2 ☐ Less 3 ☐ The same amount *(SKIP to Section F)*
45a. Do you intend to look for work of any kind in the next 12 months?	1 ☐ Yes – definitely } *Ask 45b* 2 ☐ Yes – probably } 3 ☐ Maybe, it depends on – **What?** ______________ *(SKIP to 46)* 4 ☐ No } *SKIP to 46* 5 ☐ Don't know }
b. When do you intend to start looking for work?	Month ______________
c. What kind of work do you think you will look for?	
d. What will you do to find work?	0 ☐ Check with school employment service (or counselor) 1 ☐ Check with public employment agency 2 ☐ Check with private employment agency 3 ☐ Check directly with employer 4 ☐ Place or answer newspaper ads 5 ☐ Check with friends or relatives 6 ☐ Other – *Specify* ______________
46. Why would you say that you are not looking for work at this time?	1 ☐ School 2 ☐ Personal, family 3 ☐ Health reasons 4 ☐ Waiting to be called into military service 5 ☐ Believes no work available 6 ☐ Does not want to work at this time of year 7 ☐ Other or no reason
47a. If you were offered a job by some employer in THIS AREA, do you think you would take it?	1 ☐ Yes 2 ☐ It depends – **On what?** ______________ 3 ☐ No – **Why not?** ______________ *(SKIP to Check Item J)*
b. How many hours per week would you be willing to work?	1 ☐ 1–4 4 ☐ 25–34 7 ☐ 49 or more 2 ☐ 5–14 5 ☐ 35–40 3 ☐ 15–24 6 ☐ 41–48
c. What kind of work would it have to be?	
d. What would the wage or salary have to be?	$ ____________ per ____________
CHECK ITEM J	1 ☐ Respondent has never worked (Q. 40f or 41a) – *SKIP to Section H, page 17* 2 ☐ Other – *Go back and complete 42a–43b for most recent job*

F. ATTITUDES TOWARD WORK

CHECK ITEM K	1. Respondent is: × ☐ Enrolled in school this year (Q. 1) – *SKIP to Section G, page 15* 1 ☐ Not enrolled in school – *Go to part 2*	2. Respondent is in: 1 ☐ Labor Force Group A ("WK" in 37, or "Yes" in 38a, or 39a) – *Ask 48* 2 ☐ Labor Force Group B ("LK" in 37 or "Yes" in 40a) – *SKIP to 57a* × ☐ All others – *SKIP to Section G, page 15*

48. How do you feel about the job you have now?	**Do you –** 1 ☐ **like it very much?** 2 ☐ **like it fairly well?** 3 ☐ **dislike it somewhat?** 4 ☐ **dislike it very much?**
49a. What are the things you like best about your job? . . . . . *(Try to obtain THREE things)*	1. 2. 3.
b. What are the things about your job that you don't like so well? . . . . *(Try to obtain THREE things)*	1. 2. 3.
50. Suppose someone IN THIS AREA offered you a job in the same line of work you're in now. What would the wage or salary have to be for you to be willing to take it?	$ ________ per ________ 0 ☐ I wouldn't take it at any conceivable pay Respondent's comments
51. What if this job were in SOME OTHER PART OF THE COUNTRY. What would the wage or salary have to be for you to be willing to take it?	$ ________ per ________ 0 ☐ I wouldn't take it at any conceivable pay Respondent's comments

CHECK ITEM L	× ☐ "O" checked in 42e – *SKIP to Section G, page 15* 1 ☐ Other – *Ask 52*

52. If for some reason you were permanently to lose YOUR PRESENT JOB TOMORROW, what would you do?	1 ☐ Return to school; get training – *Ask 53a–c* 2 ☐ Take another job I know about – *Ask 54a* 3 ☐ Go into business – *Ask 55a* 4 ☐ Look for work – *Ask 56a* 5 ☐ Enter Armed Forces – *SKIP to Section G, page 15* 6 ☐ Other – *Specify* ____________ *(SKIP to Section G, page 15)*
53a. What kind of courses or training would you take?	
b. Where would you enroll for such schooling?	
c. How would you finance this schooling?	*(SKIP to Section G)*

F. ATTITUDES TOWARD WORK – Continued

54a. For whom would you work?	
b. What kind of business or industry would this be?	
c. What kind of work do you think you would be doing?	
d. In what city (or county) and State would this job be located?	City or county State *(SKIP to Section G)*
55a. What kind of business?	
b. In what city (or county) and State would it be located?	City or county State *(SKIP to Section G)*
56a. What kind of work would you look for?	
b. How would you go about looking for this kind of work?	0 ☐ Check with school employment service (or counselor) 1 ☐ Check with public employment agency 2 ☐ Check with private employment agency 3 ☐ Check directly with employer 4 ☐ Place or answer newspaper ads 5 ☐ Check with friends and relatives 6 ☐ Other – *Specify* ______
c. Are there any particular companies in this area where you would apply? *(List names)*	x ☐ None – *SKIP to Section G* Number of companies
d. Why do you mention these particular companies?	*(SKIP to Section G)*

FOR UNEMPLOYED RESPONDENTS (Labor Force Group B in Check Item K)

57a. What type of work are you looking for?	
b. What would the wage or salary have to be for you to take it?	$ ______ per ______
c. As far as you are concerned, are there any restrictions on where the job should be located?	1 ☐ Yes – *Ask d* 2 ☐ No – *SKIP to Section G*
d. What are these restrictions?	

While answering Section F was another person present?

☐ Yes ☐ No – *Go to Section G*

Would you say this person influenced the respondent's answers?

☐ Yes ☐ No

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G. PREVIOUS WORK EXPERIENCE

58a. In how many different weeks did you work either full- or part-time in the last 12 months, (not counting work around the house)? Count any week where you did any work at all. *(Include paid vacations and paid sick leave.)*	0 ☐ None – *Skip to 61a* _____ Weeks
b. During the weeks that you worked in the last 12 months, how many hours per week did you usually work?	1 ☐ 1–4 2 ☐ 5–14 3 ☐ 15–24 4 ☐ 25–34 5 ☐ 35–40 6 ☐ 41–48 7 ☐ 49 or more
CHECK ITEM M	1 ☐ 52 weeks in 58a – Ask 59a 2 ☐ 1–51 weeks in 58a – *SKIP to 59b*
59a. Did you lose any full weeks of work in the last 12 months because you were on layoff from a job or lost a job?	1 ☐ Yes – **How many weeks?** *(Adjust item 58a and skip to 60)* x ☐ No – *SKIP to 63*
b. You say you worked (entry in 58a) **weeks in the last 12 months. In any of the remaining** (52 weeks minus entry in 58a) **weeks were you looking for work or on layoff from a job?**	1 ☐ Yes – **How many weeks?** 2 ☐ No – *SKIP to 62*
60. Were all of these weeks in one stretch?	1 ☐ Yes, 1 2 ☐ No, 2 3 ☐ No, 3+ } *SKIP to 61c*
61a. Even though you did not work in the last 12 months, did you spend any time trying to find work or on layoff from a job?	1 ☐ Yes – *Ask b* 2 ☐ No – *SKIP to Check Item N*
b. How many different weeks were you looking for work or on layoff from a job?	_____ Weeks
c. What did you do to try to find work?	0 ☐ Checked with school employment service (or counselor) 1 ☐ Checked with public employment agency 2 ☐ Checked with private employment agency 3 ☐ Checked directly with employer 4 ☐ Placed or answered newspaper ads 5 ☐ Checked with friends and relatives 6 ☐ Other – *Specify*
CHECK ITEM N	x ☐ All weeks of the last 12 months are accounted for – *SKIP to 63* 1 ☐ Other – *Ask 62*
62. Now let me see. During the last 12 months there were about (52 weeks minus entries in items 58a, 59a, 59b, or 61b) **weeks that you were not working or looking for work. What would you say was the main reason that you were not looking for work during these weeks?**	1 ☐ Didn't want to work 2 ☐ Ill or disabled and unable to work 3 ☐ In school 4 ☐ Couldn't find work 5 ☐ Other – *Specify*
63. *(If "O" in 42e)* **Did you work for anyone (else) for wages or salary in the past 12 months?**	1 ☐ Yes – *Ask 64* 2 ☐ No – *SKIP to 65a*
64. In the last 12 months, for how many different employers did you work?	Number of employers ________ 0 ☐ Did not work in last 12 months
65a. During your last full year in high school, did you hold a full- or part-time job that lasted two weeks or more?	x ☐ Respondent never attended a full year of high school – *SKIP to Check Item O* 1 ☐ Yes 2 ☐ No – *SKIP to Check Item O*
b. For whom did you work?	
c. What kind of work did you do? *(Specify kind of work).*	0 ☐ Job is same as job reported in 42a – *Ask 65d only*
d. What kind of business or industry is that?	
e. Where is (was) this job located?	City _____ State _____

G. PREVIOUS WORK EXPERIENCE – Continued

65f. How did you find this job?	0 ☐ School employment service (or counselor) 1 ☐ Public employment agency 2 ☐ Private employment agency 3 ☐ Employer 4 ☐ Newspaper ads 5 ☐ Relatives or friends 6 ☐ Other – *Specify* ____________
g. When did you START working at this job?	Year ________
h. How many hours per week did you usually work?	1 ☐ 1–4 2 ☐ 5–14 3 ☐ 15–24 4 ☐ 25–34 5 ☐ 35–40 6 ☐ 41–48 7 ☐ 49 or more
i. When did you STOP working at this job?	Year ________
j. Why did you leave this job?	
k. Do you feel that this job interfered with your school work in any way?	1 ☐ Yes – *Ask l* 2 ☐ No – *SKIP to Check Item O*
l. How did it interfere?	1 ☐ Not enough time for school work 2 ☐ Late hours 3 ☐ Other – *Specify* ____________

CHECK ITEM O	× ☐ Respondent is enrolled in school this year (Q. 1) – *SKIP to Section H* 1 ☐ Respondent is not enrolled in school this year – *Ask 66a*

Let's look back now to when you stopped going to school full time. I'd like to know about the first job at which you worked at least a month. **66a. For whom did you work then?**	
b. What kind of business or industry was that?	Job is same as: ☐ Job reported in 42a } *Ask f–g only* ☐ Job reported in 65b } *Ask f–g only*
c. Where was that job located?	City or county ________ State ________
d. How did you find this job?	0 ☐ School employment service (or counselor) 1 ☐ Public employment agency 2 ☐ Private employment agency 3 ☐ Employer 4 ☐ Newspaper ads 5 ☐ Relatives or friends 6 ☐ Other – *Specify* ____________
e. When did you START working at that job?	Month ________ Year ________
f. What kind of work were you doing WHEN YOU STARTED TO WORK THERE?	
g. What kind of work were you doing JUST BEFORE YOU LEFT THIS JOB?	
h. When did you STOP working at that job?	Month ________ Year ________
i. Why did you leave that job?	

NOTES

H. KNOWLEDGE OF THE WORLD OF WORK

67. I'd like your opinion about the kind of work that men in certain jobs usually do. For each occupation on this card *(Show Flashcard 11)* **there are three descriptions of job duties. Will you please tell me which description you think best fits each job? Be sure to read all of the possible answers before you decide.**

A-1. HOSPITAL ORDERLY

1 ☐ Helps to take care of hospital patients
2 ☐ Orders food and other supplies for hospital kitchens
3 ☐ Works at hospital desk where patients check in
4 ☐ Don't know – *SKIP to B-1*

A-2. How much regular schooling do you think hospital orderlies usually have?

1 ☐ Less than a high school diploma
2 ☐ A high school diploma
3 ☐ Some college
4 ☐ College degree
5 ☐ Don't know

B-1. MACHINIST

1 ☐ Makes adjustments on automobile, airplane, and tractor engines
2 ☐ Repairs electrical equipment
3 ☐ Sets up and operates metal lathes, shapers, grinders, buffers, etc.
4 ☐ Don't know – *SKIP to C-1*

B-2. How much regular schooling do you think machinists usually have?

1 ☐ Less than a high school diploma
2 ☐ A high school diploma
3 ☐ Some college
4 ☐ College degree
5 ☐ Don't know

C-1. ACETYLENE WELDER

1 ☐ Builds wooden crates to hold tanks of acetylene gas
2 ☐ Uses a gas torch to cut metal or join pieces of metal together
3 ☐ Operates a machine that stitches the soles to the upper parts of shoes
4 ☐ Don't know – *SKIP to D-1*

C-2. How much regular schooling do you think acetylene welders usually have?

1 ☐ Less than a high school diploma
2 ☐ A high school diploma
3 ☐ Some college
4 ☐ College degree
5 ☐ Don't know

D-1. STATIONARY ENGINEER

1 ☐ Works at a desk, making drawings and solving engineering problems
2 ☐ Drives a locomotive that moves cars around in a freight yard
3 ☐ Operates and maintains such equipment as steam boilers and generators
4 ☐ Don't know – *SKIP to E-1*

D-2. How much regular schooling do you think stationary engineers usually have?

1 ☐ Less than a high school diploma
2 ☐ A high school diploma
3 ☐ Some college
4 ☐ College degree
5 ☐ Don't know

E-1. STATISTICAL CLERK

1 ☐ Makes calculations with an adding machine or a calculator
2 ☐ Sells various kinds of office machines and office supplies
3 ☐ Collects tickets at sports events and other types of entertainment
4 ☐ Don't know – *SKIP to F-1*

E-2. How much regular schooling do you think statistical clerks usually have?

1 ☐ Less than a high school diploma
2 ☐ A high school diploma
3 ☐ Some college
4 ☐ College degree
5 ☐ Don't know

F-1. FORK LIFT OPERATOR

1 ☐ Operates a machine that makes a certain kind of agricultural tool
2 ☐ Operates a freight elevator in a warehouse or factory
3 ☐ Drives an electrical or gas powered machine to move material in a warehouse or factory
4 ☐ Don't know – *SKIP to G-1*

F-2. How much regular schooling do you think folk lift operators usually have?

1 ☐ Less than a high school diploma
2 ☐ A high school diploma
3 ☐ Some college
4 ☐ College degree
5 ☐ Don't know

G-1. ECONOMIST

1 ☐ Prepares menus in a hospital, hotel, or other such establishment
2 ☐ Does research on such matters as general business conditions, unemployment, etc.
3 ☐ Assists a chemist in developing chemical formulas
4 ☐ Don't know – *SKIP to H-1*

G-2. How much regular schooling do you think economists usually have?

1 ☐ Less than a high school diploma
2 ☐ A high school diploma
3 ☐ Some college
4 ☐ College degree
5 ☐ Don't know

H. KNOWLEDGE OF THE WORLD OF WORK – Continued

67. H-1. MEDICAL ILLUSTRATOR

1 ☐ Hands tools and equipment to a surgeon during an operation
2 ☐ Demonstrates the use of various types of medicines
3 ☐ Draws pictures that are used to teach anatomy and surgical operating procedures
4 ☐ Don't know – *SKIP to I-1*

H-2. How much regular schooling do you think medical illustrators usually have?

1 ☐ Less than a high school diploma
2 ☐ A high school diploma
3 ☐ Some college
4 ☐ College degree
5 ☐ Don't know

I-1. DRAFTSMAN

1 ☐ Makes scale drawings of products or equipment for engineering or manufacturing purposes
2 ☐ Mixes and serves drinks in a bar or tavern
3 ☐ Pushes or pulls a cart in a factory or warehouse
4 ☐ Don't know – *SKIP to J-1*

I-2. How much regular schooling do you think draftsmen usually have?

1 ☐ Less than a high school diploma
2 ☐ A high school diploma
3 ☐ Some college
4 ☐ College degree
5 ☐ Don't know

J-1. SOCIAL WORKER

1 ☐ Works for a welfare agency and helps people with various types of problems they may have
2 ☐ Conducts research on life in primitive societies
3 ☐ Writes newspaper stories on marriages, engagements, births, and similar events
4 ☐ Don't know – *SKIP to 68*

J-2. How much regular schooling do you think social workers usually have?

1 ☐ Less than a high school diploma
2 ☐ A high school diploma
3 ☐ Some college
4 ☐ College degree
5 ☐ Don't know

68. What would you say is more important to YOU in deciding what kind of work you want to go into, good wages or liking the work?

1 ☐ Liking it 2 ☐ Good wages

Now I'd like your opinion on whether people in certain occupations earn more, on the average, than people in other occupations. By average, we mean the average of all men in this occupation in the entire United States.

69. Who do you think earns more in a year; a man who is:

a. 1 ☐ An automobile mechanic . . . .
or
2 ☐ An electrician? . . . . 0 ☐ Don't know

b. 1 ☐ A medical doctor . . . .
or
2 ☐ A lawyer? . . . . 0 ☐ Don't know

c. 1 ☐ An aeronautical engineer . . . .
or
2 ☐ A medical doctor? . . . . 0 ☐ Don't know

d. 1 ☐ A truck driver . . . .
or
2 ☐ A grocery store clerk? . . . . 0 ☐ Don't know

e. 1 ☐ An unskilled laborer in a steel mill . . . .
or
2 ☐ An unskilled laborer in a shoe factory? . . 0 ☐ Don't know

f. 1 ☐ A lawyer . . . .
or
2 ☐ A high school teacher? . . . . 0 ☐ Don't know

g. 1 ☐ A high school teacher . . . .
or
2 ☐ A janitor? . . . . 0 ☐ Don't know

h. 1 ☐ A janitor . . . .
or
2 ☐ A policeman? . . . . 0 ☐ Don't know

While answering Section H was another person present?

☐ Yes ☐ No – *Go to Section I*

Would you say this person influenced the respondent's answers?

☐ Yes ☐ No

I. FUTURE JOB PLANS

70. Now I would like to talk to you about your future job plans. What kind of work would you like to be doing when you are 30 years old?	x ☐ Same as present job } *SKIP to Section J* 0 ☐ Don't know
71. Why do you think you would like this type of work?	1 ☐ Like, enjoy, or interested in it, find it satisfying 2 ☐ Feel work is important 3 ☐ Ability or talent in it 4 ☐ Economic characteristics (pay, hours, security, etc.) 5 ☐ Other – *Specify* ______
72. What do you think your chances are of actually getting into this type of work?	**Are they –** 1 ☐ **excellent** } *SKIP to 74* 2 ☐ **good** 3 ☐ **fair** } *Ask 73* 4 ☐ **poor**
73. Why do you think the chances are not so good?	1 ☐ Poor grades 2 ☐ Lack of education 3 ☐ Lack of experience 4 ☐ May change his mind (not sure) 5 ☐ Other – *Specify*
74. If you can't be a (type of work given in 70), **what type of work do you think you will be doing at age 30?**	

While answering Section I was another person present?

☐ Yes ☐ No – *Go to Section J*

Would you say this person influenced the respondent's answers?

☐ Yes ☐ No

J. HEALTH

CHECK ITEM P	1 ☐ Respondent is currently in school (Q. 1) – *Ask 75* 2 ☐ Respondent is currently not in school – *SKIP to 76*
75. Do you have any health problems that limit in any way your activity in school?	x ☐ Yes – *SKIP to 78a* 1 ☐ No – *Ask 76*
76. Do you have any health problems that limit in any way the amount or kind of work you can do?	x ☐ Yes – *SKIP to 78a* 1 ☐ No – *Ask 77*
77. Do you have any health problems that limit in any way all your other activities?	1 ☐ Yes – *Ask 78a* 2 ☐ No – *SKIP to 79a*
(If "Yes" in any of 75–77) **78a. How long have you been limited in this way?**	Years ______
b. In what way are you limited?	
79a. Does your wife's health limit the amount or kind of work she can do?	x ☐ Respondent not married – *SKIP to Section K* 1 ☐ Yes – *SKIP to 80a* 2 ☐ No – *Ask b*
b. Does your wife's health limit the amount or kind of housework she can do?	1 ☐ Yes – *Ask 80a* x ☐ No – *SKIP to Section K*
(If "Yes" in 79a or b) **80a. How long has she been limited in this way?**	Years ______
b. In what way is she limited?	

K. ASSETS

CHECK ITEM Q	x ☐ Respondent is NOT head of household – *SKIP to 83a* 1 ☐ Respondent is head of household – *Ask 81a*
81a. In the last 12 months, did you (or your wife) receive financial assistance from any of your relatives?	1 ☐ Yes – *Ask b–c* 2 ☐ No – *SKIP to Check Item R*
b. From whom?	
c. How much did you receive?	$

K. ASSETS – Continued

CHECK ITEM R	Tenure (HRC item 22) is: 1 ☐ Owned or being bought – *Ask 82a* × ☐ Rented or no cash rent – *SKIP to 83a*

82a. Is this house (apartment) owned or being bought by you (or your wife)?	1 ☐ Yes × ☐ No – *SKIP to 83a*
b. About how much do you think this property would sell for on today's market?	$ ____________
c. About how much do you (or your wife) owe on this property for mortgages, back taxes, home improvement loans, etc.?	$ ____________ 0 ☐ None
83a. Do you (or your wife) have any money in savings or checking accounts, savings and loan companies, or credit unions?	1 ☐ Yes – **How much altogether?** $ ____________ 2 ☐ No – *Go to b*
b. Do you (or your wife) have any – **(1) U.S. Savings Bonds?**	1 ☐ Yes – **What is their face value?** $ ____________ 2 ☐ No – *Go to (2)*
(2) Stocks, bonds, or mutual funds?	1 ☐ Yes – **About how much is their market value?** $ ________ 2 ☐ No – *Go to 84a*
84a. Do YOU (or your wife) rent, own, or have an investment in a farm, business, or any other real estate?	1 ☐ Yes – *Ask b–d* 2 ☐ No – *SKIP to 85a*
b. Which one?	1 ☐ Farm 2 ☐ Business 3 ☐ Real estate
c. About how much do you think this (business, farm, or other real estate) would sell for on today's market?	$ ____________
d. What is the total amount of debt and other liabilities on this (business, farm, or other real estate)?	$ ____________ 0 ☐ None
85a. Do you (or your wife) own an automobile?	1 ☐ Yes – *Ask b–c* 2 ☐ No – *SKIP to 86*
b. What is the make and model year? *(If more than one, ask about newest)*	Model year ____________ Make ____________
c. Do you owe any money on this automobile?	1 ☐ Yes – **How much altogether?** $ ____________ 2 ☐ No
86. Do you (or your wife) owe any (other) money to stores, banks, doctors, or anyone else, excluding 30-day charge accounts?	1 ☐ Yes – **How much?** $ ____________ 2 ☐ No

L. INCOME

Now I would like to ask a few questions about your income in the last 12 months.	RESPONDENT	WIFE × ☐ Not married
87a. How much did you (and your wife) receive from wages, salary, commissions, or tips from all jobs, before deductions for taxes or anything else?	$ ____________ 0 ☐ None	$ ____________ 0 ☐ None
b. Did you (and your wife) receive any income from working on your own or in your own business or farm? $ ____________ less $ ____________ = ⟶ *(Gross income)* *(Expenses)*	1 ☐ Yes – **How much?** $ ____________ 2 ☐ No	1 ☐ Yes – **How much?** $ ____________ 2 ☐ No
c. Did you (or your wife) receive any unemployment compensation?	1 ☐ Yes **(1) How many weeks?** ____________ **(2) How much?** $ ____________ 2 ☐ No	1 ☐ Yes **(1) How many weeks?** ____________ **(2) How much?** $ ____________ 2 ☐ No
d. Did you (or your wife) receive any other income, such as rental income, interest or dividends, income as a result of disability or illness, etc.?	1 ☐ Yes – **How much?** $ ____________ 2 ☐ No	1 ☐ Yes – **How much?** $ ____________ 2 ☐ No

CHECK ITEM S	× ☐ Respondent (and wife) lives alone – *SKIP to 88b* 1 ☐ All others – *Ask 88a (If two or more RELATED respondents in household, ask 88a–b only once, and transcribe answers from the first to the other questionnaires.)*

L. INCOME – Continued

88a. In the past 12 months, what was the total income of ALL family members living here? *(Show Flashcard 2).*	1 ☐ Under $1,000 (A) 2 ☐ $1,000–$1,999 (B) 3 ☐ 2,000– 2,999 (C) 4 ☐ 3,000– 3,999 (D) 5 ☐ 4,000– 4,999 (E) 6 ☐ 5,000– 5,999 (F) 7 ☐ $ 6,000–$ 7,499 (G) 8 ☐ 7,500– 9,999 (H) 9 ☐ 10,000– 14,999 (I) 10 ☐ 15,000– 24,999 (J) 11 ☐ 25,000 and over (K)
b. Did anyone in this family receive any welfare or public assistance in the last 12 months?	1 ☐ Yes 2 ☐ No

CHECK ITEM T	× ☐ Respondent lives with parents – *SKIP to Section M* 1 ☐ Respondent does not live with parents – *Ask 89a*

89a. How many persons, not counting yourself (or your wife), are dependent upon you for at least one-half of their support?	________ 0 ☐ None – *SKIP to Section M*
b. Do any of these dependents live somewhere other than here at home with you?	1 ☐ Yes – **Who are they?** ________ 2 ☐ No ________

While answering Sections K and L, was another person present?

☐ Yes ☐ No – *Go to Section M*

Would you say this person influenced the respondent's answers?

☐ Yes ☐ No

M. FAMILY BACKGROUND

Now I have some questions on your family background. **90. Where were you born?**	1 ☐ U.S.	City County State
	2 ☐ Outside U.S.	Country
91. For how long have you been living in this area (city or county of CURRENT residence)?	1 ☐ Less than 1 year 2 ☐ 1 year or more – *Specify* 3 ☐ All my life – *SKIP to 94*	
92. Where did you live before moving to (name of city or county of CURRENT residence)?	1 ☐ U.S.	City County State
	2 ☐ Outside U.S.	Country
93. Where did you live when you were 18?	0 ☐ Respondent is 18 or less	
	1 ☐ U.S.	City County State
	2 ☐ Outside U.S.	Country
Now I'd like to ask about your parents. **94. Are your mother and father living?**	1 ☐ BOTH parents alive 2 ☐ MOTHER alive, Father dead 3 ☐ FATHER alive, Mother dead 4 ☐ NEITHER parent alive	

M. FAMILY BACKGROUND – Continued

95. What about your wife's parents? Are her mother and father living?		0 ☐ Respondent is not married 1 ☐ BOTH parents alive 2 ☐ MOTHER alive, Father dead 3 ☐ FATHER alive, Mother dead 4 ☐ NEITHER parent alive
96. Where were your parents born – in the U.S. or some other country?	a. Father	1 ☐ U.S. 2 ☐ Other – *Specify* ______
	b. Mother	1 ☐ U.S. 2 ☐ Other – *Specify* ______
97. In what country were your grandparents born?	a. Father's father	1 ☐ U.S. 2 ☐ Other – *Specify* ______
	b. Father's mother	1 ☐ U.S. 2 ☐ Other – *Specify* ______
	c. Mother's father	1 ☐ U.S. 2 ☐ Other – *Specify* ______
	d. Mother's mother	1 ☐ U.S. 2 ☐ Other – *Specify* ______
98. Which of the categories on this card describes where you were living when you were 14 years old? . . . *(Show Flashcard 3)*		1 ☐ On a farm or ranch 2 ☐ In the country, not on farm or ranch 3 ☐ In a town or small city (under 25,000) 4 ☐ In the suburb of a large city 5 ☐ In a city of 25,000–100,000 6 ☐ In a large city (100,000 or more)
99. With whom were you living when you were 14 years old?		1 ☐ Father and mother 2 ☐ Father and step-mother 3 ☐ Mother and step-father 4 ☐ Father 5 ☐ Mother 6 ☐ Some other adult MALE relative *(Specify)* ______ 7 ☐ Some other adult FEMALE relative *(Specify)* ______ 8 ☐ Some other arrangement *Describe* ______ 0 ☐ On my own – *SKIP to 101a*
100. What kind of work was your father (or the head of the household) **doing when you were 14 years old?**		Occupation ______
101a. Did you or your parents (or person mentioned in 99) **regularly get any magazines when you were about 14 years old?**		1 ☐ Yes 2 ☐ No
b. Did you or your parents (or person mentioned in 99) **regularly get a newspaper when you were about 14 years old?**		1 ☐ Yes 2 ☐ No
c. Did you or your parents have a library card when you were about 14 years old?		1 ☐ Yes 2 ☐ No
CHECK ITEM U	1 ☐ Father lives in household 2 ☐ Father deceased 3 ☐ Did not live with father when 14 years old (Q. 99) ☐ Other – *Ask 102a*	1–3: *SKIP to Check Item V*
102a. During the past 12 months, in about how many weeks did your father work either full time or part time (not counting work around the house)?		Weeks ______ 0 ☐ Did not work 1 ☐ Don't know *SKIP to 103a*
b. Did your father usually work full time or part time? . . .		1 ☐ Full time 2 ☐ Part time
c. What kind of work was he doing? *(If more than one, record the one worked at longest.)*		

M. FAMILY BACKGROUND – Continued

103a. What was the highest grade (or year) of regular school your father ever attended?	(1) Elementary . . . . 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ (2) High school . . . 1 ☐ 2 ☐ 3 ☐ 4 ☐ (3) College . . . . . 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6+ ☐
b. Did he finish this grade (or year)?	1 ☐ Yes 2 ☐ No
CHECK ITEM V	1 ☐ Mother lives in household 2 ☐ Mother deceased 3 ☐ Did not live with mother when 14 years old (Q. 99) } *SKIP to 106a* ☐ Other – *Ask 104a*
104a. Did your mother work at all during the past 12 months?	1 ☐ Yes – *Ask b* 2 ☐ No – *SKIP to 105a* 3 ☐ Don't know – *SKIP to 105a*
b. How many weeks did she work?	Weeks
c. Did your mother usually work full time or part time?	1 ☐ Full time 2 ☐ Part time
d. What kind of work was she doing? *(If more than one, record the one worked at longest.)*	
105a. What was the highest grade (or year) of regular school your mother ever attended?	(1) Elementary . . . 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ (2) High school . . 1 ☐ 2 ☐ 3 ☐ 4 ☐ (3) College . . . . . 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6+ ☐
b. Did she finish this grade (or year)?	1 ☐ Yes 2 ☐ No
106a. Do you have any brothers or sisters who live somewhere else?	1 ☐ Yes 2 ☐ No – *SKIP to 108*
b. How many?	
c. How old is the oldest (living) one?	Age
107a. What was the highest grade (or year) of regular school he (she) ever attended?	(1) Elementary . . . 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ (2) High school . . 1 ☐ 2 ☐ 3 ☐ 4 ☐ (3) College . . . . . 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6+ ☐
b. Did he (she) finish this grade (or year)?	1 ☐ Yes 2 ☐ No
108. What is your Social Security number?	☐☐☐ ☐☐ ☐☐☐☐ 0 ☐ Does not have one

NOTES

Now I have a few questions about the education and work experience of the other family members living here.

				Persons 6–24 years old			Persons 25 years old and over		Persons 14 years old and over		
										If person worked at all in last 12 months	
Line No.	**NAMES** List below all persons living here who are related to respondent. Enter the line number from the Household Record Card.	**AGE**	**RELATIONSHIP TO RESPONDENT** *(Example: wife, son, daughter-in law, brother, etc.)*	**Is . . . attending or enrolled in school?** *Circle Y – Yes N – No*	*If "Yes"* **What grade (year)?** *If "No"* **What is the highest grade (year) . . . ever attended?**	**Did . . . finish this grade (year)?**	**What is the highest grade (year) of regular school . . . has ever attended?**	**Did . . . finish this grade (year)?**	**During the past 12 months, how many weeks did . . . work either full or part time (not counting work around the house)?**	**In the weeks that . . . worked, how many hours did . . . usually work per week?**	**What kind of work was . . . doing?** *(If more than one, record the longest.)*
109	110	111	112	113	114	115	116	117	118	119	120
			Respondent								
				Y N		Y N		Y N			
				Y N		Y N		Y N			
				Y N		Y N		Y N			
				Y N		Y N		Y N			
				Y N		Y N		Y N			
				Y N		Y N		Y N			
				Y N		Y N		Y N			
				Y N		Y N		Y N			
				Y N		Y N		Y N			

(Ask at the completion of the interview. If more than one respondent in the household, ask for each.)

121. **We would like to contact you again next year at this time to bring this information up to date. Would you please give me the name, address, and telephone number of two relatives or friends who will always know where you can be reached even if you move away?**

Name	Relationship to respondent	Address	Telephone No.
1.			
2.			

CHECK ITEM W

☐ Respondent is not attending high school (Q. 2)

Respondent is attending high school and –

☐ signed release

☐ did not sign release – *Specify* ____________________

NOTES

O.M.B. No. 41-R2352: Approval Expires December 30, 1972

NOTICE – Your report to the Census Bureau is confidential by law (Title 13, U.S. Code). It may be seen only by sworn Census employees and may be used only for statistical purposes.

FORM LGT-251
(8-5-71)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

NATIONAL LONGITUDINAL SURVEYS
SURVEY OF WORK EXPERIENCE OF YOUNG MEN

1971

(001) 1 ☐ Respondent a noninterview in 1970 – GO to page 35

METHODS OF LOCATING RESPONDENT WHO HAS MOVED

	Successful	Unsuccessful	
(002)	1 ☐	2 ☐	New occupants
(003)	1 ☐	2 ☐	Neighbors
(004)	1 ☐	2 ☐	Apartment house manager
(005)	1 ☐	2 ☐	Post office
(006)	1 ☐	2 ☐	School
(007)	1 ☐	2 ☐	Persons listed on information sheet
(008)	1 ☐	2 ☐	Other – Specify ↴

RECORD OF CALLS

Date	Time	Comments
	a.m. p.m.	
	a.m. p.m.	
	a.m. p.m.	
	a.m. p.m.	

RECORD OF INTERVIEW

		Interview time		
	Date completed Month / Day / Year	Began	Ended	Interviewed by
(009)		a.m.	a.m.	
(010)	Length of interview (minutes)	p.m.	p.m.	

NONINTERVIEW REASON

(011) ☐ Unable to contact respondent – Specify

6 ☐ Temporarily absent – Give return date

7 ☐ Armed Forces

8 ☐ Institutionalized – Specify type

9 ☐ Refused

0 ☐ Deceased

A ☐ Other – Specify

TRANSCRIPTION FROM HOUSEHOLD RECORD CARD

Item 13 – Marital status of respondent

(012)
1 ☐ Married, spouse present
2 ☐ Married, spouse absent
3 ☐ Widowed
4 ☐ Divorced
5 ☐ Separated
6 ☐ Never married

If respondent has moved, enter new address

(013) 1. Number and street

(014)

(015) 2. City | 3. County | 4. State | 5. ZIP code

1. EDUCATIONAL STATUS

1. Are you attending or enrolled in regular school?	1. (016) 1 ☐ Yes – ASK 2a 2 ☐ No → **When were you last enrolled?** (017) ____________ Month ________ Year – SKIP to Check Item B
2a. What grade are you attending?	2a. (018) 1 ☐ Elementary 1 2 3 4 5 6 7 8 2 ☐ High school 1 2 3 4 3 ☐ College 1 2 3 4 5 6
b. Are you enrolled as a full-time or part-time student?	b. (019) 1 ☐ Full-time 2 ☐ Part-time
CHECK ITEM A	*Refer to item 116R on Information Sheet.* ☐ Respondent not in school in 1970 – *ASK 3a* ☐ Respondent in school in 1970 – *SKIP to Check Item C*
CHECK ITEM B	*Refer to items 116R and 117R on Information Sheet and item 1.* ☐ Respondent in school in 1970 – *SKIP to Check Item F, page 3* ☐ Respondent not enrolled in 1970 and 1971 **and** completed college 1–3 – *SKIP to 21a, page 5* ☐ All others – *SKIP to 22a, page 5*
3a. At this time last year, you were not enrolled in school. How long had you been out of school before returning?	3a. (020) ________ Years
b. Why did you return?	b. (021) ☐
c. In what curriculum are you enrolled?	c. (022) ☐☐ ____________________________ SKIP to 5
CHECK ITEM C	*Refer to items 2a and 116R and 117R on Information Sheet.* ☐ Respondent in high school in 1970, college now – *SKIP to 5* ☐ Other – *ASK 4*
4. Are you attending the same school as you were at this time last year?	4. (023) 1 ☐ Yes – *SKIP to 10* 2 ☐ No – *ASK 5*
5. What is the name of the school you now attend?	5.
6. Where is this school located?	6. (024) ☐☐ ______________________ City ______________________ County ______________________ State
7. Is this school public or private?	7. (025) 1 ☐ Public 2 ☐ Private
8. When did you enter this school?	8. (026) ____________ Month ________ Year
CHECK ITEM D	*Refer to item 2a or item 116R on Information Sheet.* ☐ Respondent in college 1 now – *SKIP to 14c* ☐ Respondent in high school 1 now } *SKIP to 22a, page 5* ☐ Respondent not in school in 1970 } ☐ Other – *ASK 9*
9. Why did you change schools?	9. (027) ☐
10. Would you say you now like school more, about the same, or less than you did last year?	10. (028) 1 ☐ More 2 ☐ Less 3 ☐ About the same

I. EDUCATIONAL STATUS – Continued

11. Are you enrolled in the same curriculum now as you were last year?	11.	(029) Yes 1 ☐ College – *SKIP to 14a* Yes 2 ☐ High school – *SKIP to 22a, page 5* Yes 3 ☐ Elementary – *SKIP to 22a, page 5* 4 ☐ No – *ASK 12*
12. In what curriculum are you enrolled now?	12.	(030) ☐☐
13. How did you happen to change your curriculum?	13.	(031) ☐
☐ Respondent not now in college – *SKIP to Check Item E*		
14a. How much is the full-time tuition this year at the college you attend?	14a.	(032) $ ________ . 00
b. Do you have a scholarship, fellowship, assistantship, or other type of financial aid this year?	b.	(033) 1 ☐ Yes – *ASK c* 2 ☐ No – *SKIP to Check Item E*
c. What kind?	c.	(034) 1 ☐ Scholarship 2 ☐ Fellowship 3 ☐ Assistantship 4 ☐ Loan 5 ☐ Other – *Specify* ________
d. How much is it per year?	d.	(035) $ ________ . 00
CHECK ITEM E		*Refer to item 116R and 117R on Information Sheet.* ☐ Respondent in college 3–6 in 1970 – *ASK 15a* ☐ Other – *SKIP to 22a, page 5*
15a. Have you received a degree since last year at this time?	15a.	(036) 1 ☐ Yes – *ASK b* 2 ☐ No – *SKIP to 22a, page 5*
b. What degree was it?	b.	(037) 1 ☐ Bachelor's (B.A., B.S., A.B.) 2 ☐ Master's (M.S., M.B., M.B.A.) 3 ☐ Doctor's (Ph.D.) 4 ☐ Other – *Specify* ________
c. In what field did you receive your degree?	c.	(038) ☐☐
d. Why did you decide to continue your education after receiving this degree?	d.	(039) ☐ *SKIP to 22a, page 5*
CHECK ITEM F		*Refer to item 116R and 117R on Information Sheet.* ☐ Respondent in high school 1–3 last year – *ASK 16a* ☐ Respondent in high school 4 last year – *SKIP to 17a* ☐ Respondent in college 1–3 last year – *SKIP to 19a* ☐ Respondent in college 4+ last year – *SKIP to 20a* ☐ Respondent in elementary school last year – *ASK 16a*
16a. At this time last year, you were attending your ________ year of high school. Did you complete that year?	16a.	(040) 1 ☐ Yes 2 ☐ No
b. Why did you drop out of high school?	b.	(041) ☐
c. Do you expect to return?	c.	(042) 1 ☐ Yes – *ASK d* 2 ☐ No – *SKIP to 24a, page 5*
d. When do you expect to return?	d.	(043) 1 ☐ This school year 2 ☐ Next school year 3 ☐ Don't know 4 ☐ Other ________ *SKIP to 22a, page 5*

I. EDUCATIONAL STATUS – Continued

17a. Did you graduate from high school?	17a.	(044)	1 ☐ Yes – *SKIP to Check Item G* 2 ☐ No – *ASK b*
b. Why not?	b.	(045)	☐
CHECK ITEM G	*Refer to item 118R on Information Sheet.*	(046)	1 ☐ Respondent had planned to enter college when last interviewed – *ASK 18a* 2 ☐ Respondent had not planned to enter college when last interviewed – *SKIP to 22a* 3 ☐ Respondent not asked about educational goal – *SKIP to 22a*
18a. When we last interviewed you, you said you planned to go to college. Have your plans changed?	18a.	(047)	1 ☐ Yes – *ASK b* 2 ☐ No – *SKIP to c*
b. What caused your plans to change?	b.	(048)	1 ☐ Poor grades, lacked ability, wasn't accepted because of low grades, etc. 2 ☐ Economic reasons (couldn't afford, had to work instead, unable to obtain financial assistance) 3 ☐ Disliked school, lost interest, had enough school 4 ☐ Military service 5 ☐ Personal health reasons 6 ☐ Other – Specify ____________ *SKIP to d*
c. Why are you presently not enrolled in college?	c.	(049)	1 ☐ Economic reasons (couldn't afford, have to work, unable to obtain financial assistance, etc.) 2 ☐ Was rejected or turned down 3 ☐ Waiting to be accepted by a school 4 ☐ Military service 5 ☐ Personal health reasons 6 ☐ Other – Specify ____________
d. When do you plan to enroll in college?	d.	(050)	________ Month ______ Year – *SKIP to 22a* x ☐ Don't plan to enroll – *SKIP to 24a*
19a. Last year at this time you were in college. Why did you decide to drop out?	19a.	(051)	☐ ____________ x ☐ Received degree – *SKIP TO 21a*
b. Do you expect to return?	b.	(052)	1 ☐ Yes – *ASK c* 2 ☐ No – *SKIP to 24a*
c. When do you think you will return?	c.	(053)	1 ☐ This school year 2 ☐ Next school year 3 ☐ Don't know 4 ☐ Other ____________ *SKIP to 22a*
20a. Last year at this time you were in college. Did you receive a degree?	20a.	(054)	1 ☐ Yes – *SKIP to 21a* 2 ☐ No – *ASK b*
b. Why did you decide to drop out?	b.	(055)	☐
c. Do you expect to return?	c.	(056)	1 ☐ Yes – *ASK d* 2 ☐ No – *SKIP to 24a*
d. When?	d.	(057)	1 ☐ This school year 2 ☐ Next school year 3 ☐ Don't know 4 ☐ Other ____________ *SKIP to 22a*

1. EDUCATIONAL STATUS – Continued

21a. What degree did you receive?

21a. (058)

1 ☐ Associate (2 year course)
2 ☐ Bachelor's (B.A., B.S., A.B.)
3 ☐ Master's (M.S., M.B., M.B.A.)
4 ☐ Doctor's (Ph.D.)
5 ☐ Other – *Specify* ________________
} *ASK 21b*

6 ☐ Did not receive degree – *SKIP to 22a*

b. In what field of study did you receive your degree?

b. (059) ☐☐

22a. How much education would you like to get?

If "Other," – *Specify* ________________

____

22a. (060)

High school: 1 ☐ 1 Yr. 2 ☐ 2 Yrs. 3 ☐ 3 Yrs. 4 ☐ 4 Yrs.

College:
5 ☐ 2 yrs. (complete junior college)
6 ☐ 4 yrs. (graduate from 4-year college)
7 ☐ 6 yrs. (Master's degree or equivalent)
8 ☐ 7 + yrs. (Ph.D. or professional degree)

Other: 0 ☐ None, don't know, other responses

b. As things stand now how much education do you think you will actually get?

If "Other," – *Specify* ________________

____

b. (061)

High school: 1 ☐ 1 Yr. 2 ☐ 2 Yrs. 3 ☐ 3 Yrs. 4 ☐ 4 Yrs.

College:
5 ☐ 2 yrs. (complete junior college)
6 ☐ 4 yrs. (graduate from 4-year college)
7 ☐ 6 yrs. (Master's degree or equivalent)
8 ☐ 7 + yrs. (Ph.D. or professional degree)

Other: 0 ☐ None, don't know, other responses

CHECK ITEM H

Refer to item 22a and item 118R on Information Sheet

☐ Educational goal different from when last interviewed – *ASK 23*
☐ Educational goal same as when last interviewed
☐ Respondent not asked about educational goal
} *SKIP to 24*

23. When we last interviewed you, you said you would like to get *(amount of education indicated in 118R)* **Why have you changed your plans?**

23. (062) ☐

24a. Did you live with either of your parents when you were 14 years old?

24a. (063)

1 ☐ Yes – *ASK 24b*
2 ☐ No – *SKIP to Check Item I*

b. When you were 14 years old, how much education did your parents want you to get?

b. (064)

High school: 1 ☐ 1 Yr. 2 ☐ 2 Yrs. 3 ☐ 3 Yrs. 4 ☐ 4 Yrs.

College:
5 ☐ 2 yrs. (complete junior college)
6 ☐ 4 yrs. (graduate from 4-year college)
7 ☐ 6 yrs. (Master's degree or equivalent)
8 ☐ 7 + yrs. (Ph.D. or professional degree)

Other: 0 ☐ None, other, don't know

CHECK ITEM I

☐ Respondent a noninterview in 1970 – *ASK 25a*
☐ All others – *SKIP to 29*

25a. How much encouragement did your father give you to continue your education beyond high school?

25a. (065)

1 ☐ Much
2 ☐ Some
3 ☐ None

b. How much encouragement did your mother give you to continue your education beyond high school?

b. (066)

1 ☐ Much
2 ☐ Some
3 ☐ None

26. How much help in continuing your schooling after high school did you receive from your parents?

26. (067)

1 ☐ Much
2 ☐ Some
3 ☐ None

27. How much encouragement did your teachers and other adults in your high school give you to continue your education beyond high school?

27. (068)

1 ☐ Much
2 ☐ Some
3 ☐ None

28. How many of your friends plan to go to college, are actually attending college or have attended college?

28. (069)

1 ☐ Many of them
2 ☐ Some of them
3 ☐ Few or none of them

I. EDUCATIONAL STATUS – Continued

☐ Respondent now attends school – *SKIP to j*	
29a. Since this time last year have you taken any training courses or educational programs of any kind, either on the job or elsewhere?	29a. (070) 1 ☐ Yes – *ASK b* 2 ☐ No – *SKIP to j*
b. What kind of training or education program did you take? *(Specify below, then mark one box)* ____________________ ____________________	b. (071) 1 ☐ Professional, technical 2 ☐ Managerial 3 ☐ Clerical 4 ☐ Skilled manual 5 ☐ Other
c. Where did you take this training course? *(Specify below, then mark one box)* ____________________ ____________________	c. (072) 1 ☐ Business college, technical institute 2 ☐ Company training school 3 ☐ Correspondence course 4 ☐ High school 5 ☐ Area vocational school 6 ☐ Community or junior college 7 ☐ Other
d. How long did you attend this course or program?	d. (073) ________ Months 99 ☐ Still attending
e. How many hours per week did you spend on this training?	e. (074) 1 ☐ 1–4 2 ☐ 5–9 3 ☐ 10–14 4 ☐ 15–19 5 ☐ 20 or more
f. Did you complete this program?	f. (075) 1 ☐ Yes – **When?** ________ Month ______ Year – *SKIP to h* 2 ☐ No, dropped out – **When?** ________ Month ______ Year – *ASK g* x ☐ No, still enrolled – *SKIP to h*
g. Why didn't you complete this program?	g. (076) 1 ☐ Found a job 2 ☐ Interfered with school 3 ☐ Too much time involved 4 ☐ Lost interest 5 ☐ Too difficult 6 ☐ Other – *Specify* ________________
h. Why did you decide to get this training?	h. (077) 1 ☐ To obtain work 2 ☐ To improve current job situation 3 ☐ To get better job than present one 4 ☐ Wanted to continue education 5 ☐ Need it; worthwhile 6 ☐ Other – *Specify* ________________
i. Do you use this training on your present job?	i. (078) 1 ☐ Yes 2 ☐ No 3 ☐ Not employed
j. Do you have any plans for taking any training courses or educational programs of any kind in the near future?	j. (079) 1 ☐ Yes – *ASK k* 2 ☐ Maybe – *SKIP to n* 3 ☐ No – *SKIP to 30*
k. What kind of training do you plan to take? *(Specify below AND mark one box)* ____________________	k. (080) 1 ☐ Professional, technical 2 ☐ Managerial 3 ☐ Clerical 4 ☐ Skilled manual 5 ☐ Other
l. When do you plan to take this training?	l. (081) ________ Month ______ Year

I. EDUCATIONAL STATUS – Continued

29m. Why do you want to take this training?	29m.	(082) 1 ☐ To obtain work 2 ☐ To improve current job situation 3 ☐ To get better job than present one 4 ☐ Wanted to continue education 5 ☐ Need it; worthwhile 6 ☐ Other – *Specify* ________ *SKIP to 30a*
n. On what would it depend?	n.	(083) ☐ Specify ________ ________
30a. Have you ever served in the U.S. Armed Forces?	30a.	(084) 1 ☐ Yes 2 ☐ No – *SKIP to 31*
b. What was your rank in the Armed Forces at the time of separation from active duty?	b.	(085) ☐☐
c. When were you separated from active duty?	c.	(086) 1 ☐ Before October 15, 1969 – *SKIP to n* 2 ☐ October 15, 1969 or later – *ASK d*
d. In what branch of the Armed Forces did you serve?	d.	(087) 1 ☐ Navy 2 ☐ Army 3 ☐ Air Force 4 ☐ Marines 5 ☐ Coast Guard
e. How did you enter the Armed Forces?	e.	(088) 1 ☐ Drafted 2 ☐ Enlisted as a regular 3 ☐ Entered through OCS, ROTC, Service Academy 4 ☐ Other – *Specify* ________
f. How many months were you on active duty in the Armed Forces?	f.	(089) ________ Months
g. How old were you when you were separated from active service?	g.	(090) ________ Years
h. Other than basic training, what kinds of training did you receive while you were in the Armed Forces?	h.	(091) ☐ 0 ☐ None – *SKIP to l*
i. Did you complete this program?	i.	(092) 1 ☐ Yes 2 ☐ No
j. How long did you attend this training?	j.	(093) ________ Months
k. Do you use this training on your present (last) job?	k.	(094) 1 ☐ Yes 2 ☐ No 3 ☐ Never worked
l. What military occupation did you have for the longest time?	l.	(095) ☐☐☐
m. Were you an officer or enlisted man at that time?	m.	(096) 1 ☐ Commissioned or Warrant Officer 2 ☐ Enlisted man
n. All things considered, do you think that your period of military service has helped or hurt your career?	n.	(097) 1 ☐ Helped career – *ASK o* 2 ☐ Hurt career – *SKIP to p* 3 ☐ No effect on career – *SKIP to 31*
o. Why do you think it has helped?	o.	(098) ☐ ________ ________ *SKIP to 31*
p. Why do you think it has hurt?	p.	(099) ☐ ________ ________

II. CURRENT LABOR FORCE STATUS AND WORK HISTORY

31. **What were you doing most of LAST WEEK – working, going to school, or something else?**

(100)
1 ☐ WK – Working – *SKIP to 32b*
2 ☐ J – With a job but not at work
3 ☐ LK – Looking for work
4 ☐ S – Going to school
5 ☐ U – Unable to work – *SKIP to 35*
6 ☐ OT – Other – Specify

____

32c. **Do you USUALLY work 35 hours or more a week at this job?**

(101) 1 ☐ Yes – **What is the reason you worked less than 35 hours LAST WEEK?**
2 ☐ No – **What is the reason you USUALLY work less than 35 hours a week?**

(Mark the appropriate reason)

(102)
1 ☐ Slack work
2 ☐ Material shortage
3 ☐ Plant or machine repair
4 ☐ New job started during week
5 ☐ Job terminated during week
6 ☐ Could find only part-time work
7 ☐ Labor dispute
8 ☐ Did not want full-time work
9 ☐ Full-time work week under 35 hours
10 ☐ Attends school
11 ☐ Holiday (legal or religious)
12 ☐ Bad weather
13 ☐ Own illness
14 ☐ On vacation
15 ☐ Too busy with housework, personal business, etc.
16 ☐ Other – Specify

____

(SKIP to 36a and enter job worked at last week.)

32a. **Did you do any work at all LAST WEEK, not counting work around the house?**

(103) 1 ☐ Yes   2 ☐ No – *SKIP to 33a*

b. **How many hours did you work LAST WEEK at all jobs?**

(104) ______ Hours

CHECK ITEM J

Respondent worked –

☐ 49 hours or more – *SKIP to 36a and enter job worked at last week*
☐ 1–34 hours – *ASK c*
☐ 35–48 hours – *ASK d*

32d. **Did you lose any time or take any time off LAST WEEK for any reason such as illness, holiday, or slack work?**

☐ Yes – **How many hours did you take off?**

(105) ______ Hours

0 ☐ No – *GO to 32e*

NOTE: Correct item 32b if lost time not already deducted; if item 32b is reduced below 35 hours, ask item c, otherwise SKIP to 36a.

32e. **Did you work any overtime or at more than one job LAST WEEK?**

☐ Yes – **How many extra hours did you work?**

(106) ______ Hours

0 ☐ No

NOTE: Correct item 32b if extra hours not already included and SKIP to 36a.

(If "J" in 31, SKIP to b)

33a. **Did you have a job (or business) from which you were temporarily absent or on layoff LAST WEEK?**

(107) 1 ☐ Yes
2 ☐ No – *ASK 34a*

b. **Why were you absent from work LAST WEEK?**

(108)
1 ☐ Own illness
2 ☐ On vacation
3 ☐ Bad weather
4 ☐ Labor dispute
5 ☐ New job to begin within 30 days } *SKIP to 34c and 34d(2)*
6 ☐ Temporary layoff (less than 30 days) } *SKIP to 34d(3)*
7 ☐ Indefinite layoff (30 days or more or no definite recall date) } *SKIP to 34d(3)*
8 ☐ School interfered
9 ☐ Other – Specify

____

____

c. **Are you getting wages or salary for any of the time off LAST WEEK?**

(109) 1 ☐ Yes
2 ☐ No
3 ☐ Self-employed

d. **Do you usually work 35 hours or more a week at this job?**

(110) 1 ☐ Yes
2 ☐ No

(GO to 36a and enter job held last week.)

Notes

II. CURRENT LABOR FORCE STATUS AND WORK HISTORY – Continued

(If "LK" in 31, SKIP to b)

34a. Have you been looking for work during the past 4 weeks?

(111) 1 ☐ Yes

2 ☐ No – SKIP to 35

b. What have you been doing in the last 4 weeks to find work?

(Mark all methods used; do not read list)

(112) 0 ☐ Nothing – SKIP to 35

Checked with
- 1 ☐ State employment agency
- 2 ☐ Private employment agency
- 3 ☐ Employer directly
- 4 ☐ Friends or relatives

5 ☐ Placed or answered ads

6 ☐ School employment service

7 ☐ Other – Specify – *e.g., MDTA, union or professional register, etc.*

c. Why did you start looking for work? Was it because you lost or quit a job at that time (pause) **or was there some other reason?**

(113) 1 ☐ Lost job

2 ☐ Quit job

3 ☐ Wanted temporary work

4 ☐ Health improved

5 ☐ Other – Specify

d.(1) How many weeks have you been looking for work?

(2) How many weeks ago did you start looking for work?

(3) How many weeks ago were you laid off?

(114) ______ Weeks

e. Have you been looking for full-time or part-time work?

(115) 1 ☐ Full-time

2 ☐ Part-time

f. Is there any reason why you could not take a job LAST WEEK?

(116) Yes →
- 1 ☐ Already has a job
- 2 ☐ Temporary illness
- 3 ☐ Going to school
- 4 ☐ Other – Specify

5 ☐ No

g. When did you last work at a regular job or business lasting two consecutive weeks or more, either full-time or part-time?

☐ Date of last interview or later (item 120R on Information Sheet) –

Specify

(117) Month | Day | Year – *SKIP to 44a, page 13*

2 ☐ All others – *SKIP to 45a, page 13*

35. When did you last work at a regular job or business lasting two consecutive weeks or more, either full-time or part-time?

☐ Date of last interview or later (item 120R on Information Sheet) – Specify

(118) Month | Day | Year – *SKIP to 44a, page 13*

2 ☐ "Unable" now and "Unable" in item 119R on the Information Sheet – *SKIP to 68, page 18*

3 ☐ All others – *SKIP to 45a, page 13*

36a. (119) ☐ DESCRIPTION OF JOB OR BUSINESS

(1) For whom did you work? *(Name of company, business, organization or other employer)*

(2) Is this the full and complete name of the company?

☐ Yes

☐ No – **What is the full and complete name?**

(3) Do you ever refer to the company by any other name?

☐ Yes – **What is that name?**

☐ No

(4) To the best of your knowledge, has the name of the company changed in the past five years?

☐ Yes – **What was the name?**

☐ No

(120) ☐☐

b. In what city and State is . . . located?

______ City ______ State

(121) ☐☐☐

c. What kind of business or industry is this? *(For example: TV and radio manufacturer, retail shoe store, State Labor Department, farm)*

d. Were you –

(122) 10 ☐ P – **An employee of a PRIVATE company, business, or individual for wages, salary, or commissions?**

20 ☐ G – **A GOVERNMENT employee (Federal, State, county, or local)?**

30 ☐ O – **Self-employed in your OWN business, professional practice, or farm?**

(If not a farm)

Is this business incorporated?

31 ☐ Yes 32 ☐ No

40 ☐ WP – **Working WITHOUT PAY in family business or farm?**

(123) ☐☐☐

e. What kind of work were you doing? *(For example: electrical engineer, waiter, stock clerk, farmer)*

f. What were your most important activities or duties? *(For example: selling cars, operating printing press, finishing concrete, cleaning buildings)*

g. What was your job title?

h. When did you start working for *(entry in 36a)***?**

(124) Month | Day | Year

II. CURRENT LABOR FORCE STATUS AND WORK HISTORY – Continued

CHECK ITEM K	☐ "P" or "G" in item 36d – *ASK 37a* ☐ "O" or "WP" in item 36d – *SKIP to 37m*

37a. Altogether, how much do you usually earn at this job before deductions?	37a. (125) $ ______ *(Dollars)* ______ *(Cents)* per (126) 1 ☐ Hour (127) $ ______ *(Dollars only)* 00 per (128) 2 ☐ Day 3 ☐ Week 4 ☐ Biweekly 5 ☐ Month 6 ☐ Year 7 ☐ Other – *Specify* ______
b. How many hours per week do you usually work at this job?	b. (129) ______ Hours
c. Do you receive extra pay when you work over a certain number of hours?	c. (130) 1 ☐ Yes – *ASK d* 2 ☐ No 3 ☐ No, but received compensating time off 4 ☐ Never work overtime (2–4) *SKIP to f*
d. After how many hours do you receive extra pay?	d. (131) ______ Hours per day (132) ______ Hours per week
e. For all hours worked over *(entry in d)* **are you paid straight time, time and one-half, double time or what?**	e. (133) 1 ☐ Compensating time off 2 ☐ Straight time 3 ☐ Time and one-half 4 ☐ Double time 5 ☐ Other – *Specify* ______
f. Are your wages (salary) on this job set by a collective bargaining agreement between your employer and a union or employee association?	f. (134) 1 ☐ Yes – *ASK g* 2 ☐ No – *SKIP to i*
g. What is the name of the union or employee association?	g. (135) ☐ ______
h. Are you a member of that union or employee association?	h. (136) 1 ☐ Yes 2 ☐ No
i. Do you generally work the same days each week and the same hours each day?	i. (137) 1 ☐ Yes – *ASK j* 2 ☐ No – *SKIP to k*
j. What hours do you usually work?	j. (138) 1 ☐ Regular day shift 2 ☐ Regular evening shift 3 ☐ Regular night shift 4 ☐ Split shift
k. Some people would like to work more hours a week if they could be paid for it. Others would prefer to work fewer hours a week even if they earned less. Would you prefer more hours and more pay, fewer hours and less pay, or about the same number of hours at the same pay?	k. (139) 1 ☐ More hours and more pay 2 ☐ Fewer hours and less pay (1–2) *ASK l* 3 ☐ Same hours at the same pay – *SKIP to 38a*
l. About how many hours would you like to work?	l. (140) ______ Hours – *SKIP to 38a*
m. How many hours per week do you usually work at this job?	m. (141) ______ Hours

II. CURRENT LABOR FORCE STATUS AND WORK HISTORY – *Continued*

38a.	**How long does it usually take you to get to work?**	38a.	(142) ☐☐☐ ______ Hours ______ Minutes
b.	**What means of transportation do you usually use to get to work?** *(Mark as many boxes as apply)* *(If "Other," specify here)* ____________________	b.	(143) 1 ☐ Own auto – ASK c 2 ☐ Ride with someone else 3 ☐ Bus or streetcar 4 ☐ Subway or elevated 5 ☐ Railroad 6 ☐ Taxicab } *SKIP to d* 7 ☐ Walk only 8 ☐ Other } *SKIP to Check Item L*
c.(1)	**What is the total round trip cost of any parking fees or tolls you have to pay when you drive your own auto?**	c. (1)	(144) $ ________ *(Dollars)* . ______ *(Cents)* per (145) 0 ☐ No cost 1 ☐ Day 2 ☐ Week 3 ☐ Month
(2)	**How many miles do you go by auto round trip?**	(2)	(146) ______ Miles
d.	☐ Only box 1 marked in b – *SKIP to Check Item L* ☐ Box 1 and any of boxes 2–6 marked in b – *ASK d* **What is the total cost of the round trip by** *(means of transportation in b other than own auto)*?	d.	(147) $ ________ *(Dollars)* . ______ *(Cents)* per (148) 0 ☐ No cost 1 ☐ Day 2 ☐ Week 3 ☐ Month

CHECK ITEM L	☐ Entry in 33b – *SKIP to 39d* Item 33b is blank, and – ☐ Entry in 36d is "P" or "G" – *ASK 39a* ☐ Entry in 36d is "O" or "WP" – *SKIP to 39c*

39a.	**Did you work for more than one employer last week?**	39a.	(149) 1 ☐ Yes – *SKIP to 40a* 2 ☐ No – *ASK b*
b.	**In addition to working for wages and salary did you operate your own farm, business, or profession last week?**	b.	(150) 1 ☐ Yes – *SKIP to 40a* 2 ☐ No – *SKIP to d*
c.	**In addition to this work, did you do any work for wages or salary last week?**	c.	(151) 1 ☐ Yes – *SKIP to 40a* 2 ☐ No – *ASK d*
d.	**Did you have any other job at which you did not work at all last week?**	d.	(152) 1 ☐ Yes – *ASK 40a* 2 ☐ No – *SKIP to 41a*

Notes

(153)
(154)
(155)

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II. CURRENT LABOR FORCE STATUS AND WORK HISTORY – Continued

40a. **For whom did you work in addition to** *(entry in 36a)*? *(Name of company, business organization or other employer)*	40a. (156) ☐ ______
b. **What kind of business or industry is this?** *(For example: TV and radio manufacturer, retail shoe store, State Labor Department, farm)*	b. (157) ☐☐☐ ______
c. **Were you –**	c. (158) 1 ☐ P – **An employee of a PRIVATE company, business or individual for wages, salary, or commission?** 2 ☐ G – **A GOVERNMENT employee (Federal, State, county or local)?** 3 ☐ O – **Self-employed in your OWN business, professional practice or farm?** 4 ☐ WP – **Working WITHOUT PAY in family business or farm?**
d. **What kind of work were you doing?** *(For example: electrical engineer, waiter, stock clerk, farmer)*	d. (159) ☐☐☐ ______
e. **What were your most important activities or duties?** *(For example: selling cars, operating printing press, finishing concrete, cleaning buildings)*	e. ______
f. **What was your job title?**	f. ______
CHECK ITEM M	☐ If "P" or "G" in item 40c – ASK *g* ☐ If "O" or "WP" in item 40c – SKIP to *h*
40g. **Altogether how much do you usually earn at this job before deductions?**	40g. (160) $ ______ . ______ per: ↗ *(Dollars)* *(Cents)* (161) 1 ☐ Hour (162) $ ______ . 00 per: ↗ *(Dollars only)* (163) 2 ☐ Day 3 ☐ Week 4 ☐ Biweekly 5 ☐ Month 6 ☐ Year 7 ☐ Other – Specify ______
h. **How many hours per week do you usually work at this job?**	h. (164) ______ Hours per week
i. **When did you start working as a** *(entry in 40d)* **for** *(entry in 40a)*?	i. (165) Month | Day | Year
41a. **Before you began to work as a** *(entry in 36d)* **for** *(entry in 36a)*, **did you do any other kind of work for** *(entry in 36a)*?	41a. (166) 1 ☐ Yes – SKIP to 42a 2 ☐ No
b. **Excluding paid vacations and paid sick leave, during the time you have worked at this job, were there any full weeks in which you didn't work** *(since date of last interview)*?	b. ☐ Yes – **How many weeks?** (167) ______ Weeks 0 ☐ No – SKIP to Check Item N
c. **Why were you not working during these ______ weeks?**	c. (168) 1 ☐ School 2 ☐ Personal, family reasons 3 ☐ Own illness 4 ☐ Did not want to work 5 ☐ Layoff 6 ☐ Labor dispute 7 ☐ Armed Forces 8 ☐ Other

II. CURRENT LABOR FORCE STATUS AND WORK HISTORY – Continued

CHECK ITEM N

Refer to item 36h.

☐ Current job started date of last interview or later – *SKIP to 43*

☐ Current job started before date of last interview – *SKIP to Check Item U, page 16*

42a. When did you start working as a *(entry in 36e)* **for** *(entry in 36a)***?**

42a. (169) Month | Day | Year

b. Excluding vacations and paid sick leave, during the time you have worked as a *(entry in 36e)* **for** *(entry in 36a)*, **were there any full weeks in which you didn't work,** *(since date of last interview)***?**

b. ☐ Yes – **How many weeks?**

(170) _______ Weeks

0 ☐ No – *SKIP to Check Item O*

c. Why were you not working during these _______ weeks?

c. (171)
1 ☐ School
2 ☐ Personal, family reasons
3 ☐ Own illness
4 ☐ Did not want to work
5 ☐ Layoff
6 ☐ Labor dispute
7 ☐ Armed forces
8 ☐ Other – *Specify*

CHECK ITEM O

☐ Item 42a is date of last interview or later – *ASK 43*

☐ Item 42a is before date of last interview – *SKIP to Check Item U, page 16*

43. Just before you started on this job, was there a period of a week or more in which you were not working?

43. (172)
1 ☐ Yes – *SKIP to 55*
2 ☐ No – *SKIP to 46a*

44a. You said you last worked at a regular job on *(entry in 34g or 35)*.

Interviewer: Use calendar to determine the number of weeks since respondent last worked.

That would be about _______ weeks since you last worked. In how many of these weeks were you looking for work or on layoff from a job?

44a. (1) (173) _______ Weeks since last worked

(2) (174) _______ Weeks looking or on layoff

CHECK ITEM P

☐ 44a(1) is equal to 44a(2) – *SKIP to 46*

☐ 44a(1) is greater than 44a(2) – *ASK b*

44b. That leaves _______ weeks that you were not working or looking for work. What would you say was the main reason you were not looking for work during that period?

If "Other," specify here

44b. (175) _______ Weeks

(176) SKIP to 46
1 ☐ School
2 ☐ Personal, family reasons
3 ☐ Ill or disabled, unable to work
4 ☐ Did not want to work
5 ☐ Couldn't find work
6 ☐ Vacation
7 ☐ Armed forces
8 ☐ Other

45a. Since *(date of last interview)* **in how many different weeks did you do any work at all?**

45a. (177) _______ Weeks

0 ☐ None

b. Since *(date of last interview)* **have you spent any weeks looking for work or on layoff from a job?**

b. ☐ Yes – **How many weeks?**

(178) _______ Weeks

0 ☐ No

CHECK ITEM Q

Interviewer: Use calendar to determine the number of weeks since date of last interview.

(1) (179) _______ Weeks since date of last interview

(2) (180) _______ Weeks working, on layoff, or looking for work

☐ (1) is equal to (2) – *SKIP to Check Item U, page 16*

☐ (1) is greater than (2) – *ASK 45c*

45c. What would you say was the main reason you were not working or looking for work during (the rest of) that time?

If "Other," specify here

45c. (181) SKIP to Check Item U, page 16
1 ☐ School
2 ☐ Personal, family reasons
3 ☐ Ill or disabled, unable to work
4 ☐ Did not want to work
5 ☐ Couldn't find work
6 ☐ Vacation
7 ☐ Armed forces
8 ☐ Other

II. CURRENT LABOR FORCE STATUS AND WORK HISTORY – Continued

		(1)
46. Now let's talk about – { **The job you worked at before you started to work as a** *(entry in 36e or 46e)* **for** *(entry in 36a or 46a)* **The last job you worked at; that is, the one which ended on** *(entry in 34g or 35)*	46a.	(182) ☐ Same as 36a – *SKIP to 46e*
a. For whom did you work? *(Name of company, business, organization or other employee)*		(183) ☐☐
b. In what city and State is . . . located?	b.	City, State
c. What kind of business or industry is this? *(For example: TV and radio manufacturer, retail shoe store, State Labor Department, farm)*	c.	(184) ☐☐☐
d. Class of worker	d.	(185) 1 ☐ P 2 ☐ G 3 ☐ O 4 ☐ WP
e. What kind of work were you doing? *(For example: stock clerk, high school English teacher, car salesman)*	e.	(186) ☐☐☐
f. What were your most important activities or duties? *(For example: selling clothing, keeping account books, teaching mathematics, finishing concrete)*	f.	
g. What was your job title?	g.	
47a. Altogether, how much did you usually earn at this job before all deductions?	47a.	(187) $ ________ (188) ☐ per ________
b. How many hours per week did you usually work at this job?	b.	(189) ________ Hours
48a. When did you start working as a *(entry in 46e)* **for** *(entry in 46a)***?**	48a.	(190) Month Day Year
b. When did you stop working as a *(entry in 46e)* **for** *(entry in 46a)***?**	b.	(191) Month Day Year x ☐ Still working there – *SKIP to 50a*
49a. Why did you happen to leave this job (change the kind of work you were doing)?	49a.	(192) ☐☐
b. Did you have a new job lined up before you left this one?	b.	(193) 1 ☐ Yes 2 ☐ No
50a. Excluding paid vacations and paid sick leave, during the time you worked at this job were there any full weeks in which you didn't work on this job *(since date of last interview)***?**	50a.	☐ Yes – **How many weeks?** (194) ________ Weeks – *ASK b* 0 ☐ No – *SKIP to 51*
b. Why were you not working at this job during these . . . weeks?	b.	(195) 1 ☐ School 2 ☐ Personal, family reasons 3 ☐ Own illness 4 ☐ Did not want to work 5 ☐ Layoff 6 ☐ Labor dispute 7 ☐ Armed Forces 8 ☐ Other – Specify ________
c. Were you working for someone else during this period(s)?	c.	(196) 1 ☐ Yes – *GO to next column and record information about this job* 2 ☐ No
51. Did you do any other kind of work for *(entry in 46a)* **just before** *(date in 48a)***?**	51.	(197) 1 ☐ Yes – *GO to next column and record information about this job* 2 ☐ No
CHECK ITEM R — Item 48a is: 1. Date of last interview or later 2. Before date of last interview	1. 2.	☐ – *SKIP to 53* ☐ – *ASK 52*
52. Have you worked for anyone else *(since date of last interview)***?**	52.	(198) 1 ☐ Yes – *GO to next column and record information* 2 ☐ No – *SKIP to Check Item U*
53. While you were working for *(entry in 46a)***, were you also working for someone else?**	53.	(199) 1 ☐ Yes – *GO to next column and record information about simultaneous job* 2 ☐ No – *ASK 54*
54. JUST before you started working as a *(entry in 46e)* **for** *(entry in 46a)* **was there a period of a week or more in which you were not working?**	54.	(200) 1 ☐ Yes – *ASK 55* 2 ☐ No – *GO to next column and record information about previous job*
55. When did this period in which you were not working start?	55.	(201) Month Day Year x ☐ Never worked before
56a. Interviewer: Determine number of weeks not working. If item 55 is before date of last interview, count only weeks since that time.	56a.	(202) ________ Weeks not working
b. That would be about . . . weeks that you were not working. How many of those weeks were you looking for work or on layoff from a job?	b.	(203) ________ Weeks looking or on layoff
CHECK ITEM S — 1. 56a is equal to 56b 2. 56a is greater than 56b	1. 2.	☐ – *SKIP to Check Item T* ☐ – *ASK 57*
57. That leaves . . . weeks that you were not working or looking for work. What would you say was the main reason that you were not looking for work during that period?	57.	(204) 1 ☐ School 2 ☐ Personal, family reasons 3 ☐ Ill or disabled; unable to work 4 ☐ Did not want to work 5 ☐ Couldn't find work 6 ☐ Vacation 7 ☐ Armed Forces 8 ☐ Other – Specify ________
CHECK ITEM T — 1. Item 55 is date of last interview or later 2. Item 55 is before date of last interview	1. 2.	☐ – *GO to next column and record information about previous job* ☐ – *SKIP to Check Item U*

[illegible]
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II. CURRENT LABOR FORCE STATUS AND WORK HISTORY – *Continued*

	(2)	(3)	(4)
46a.	(205) ☐ Never worked before – *SKIP to Check Item U* ☐ Same as ______ – *SKIP to 46e*	(228) ☐ Never worked before – *SKIP to Check Item U* ☐ Same as ______ – *SKIP to 46e*	(251) ☐ Never worked before – *SKIP to Check Item U* ☐ Same as ______ – *SKIP to 46e*
b.	(206) ☐☐ City, State	(229) ☐☐ City, State	(252) ☐☐ City, State
c.	(207) ☐☐☐	(230) ☐☐☐	(253) ☐☐☐
d.	(208) 1 ☐ P 2 ☐ G 3 ☐ O 4 ☐ WP	(231) 1 ☐ P 2 ☐ G 3 ☐ O 4 ☐ WP	(254) 1 ☐ P 2 ☐ G 3 ☐ O 4 ☐ WP
e.	(209) ☐☐☐	(232) ☐☐☐	(255) ☐☐☐
f.			
g.			
47a.	(210) $ ______ (211) ☐ per ______	(233) $ ______ (234) ☐ per ______	(256) $ ______ (257) ☐ per ______
b.	(212) ______ Hours	(235) ______ Hours	(258) ______ Hours
48a.	(213) Month Day Year	(236) Month Day Year	(259) Month Day Year
b.	(214) Month Day Year x ☐ Still working there – *SKIP to 50b*	(237) Month Day Year x ☐ Still working there – *SKIP to 50b*	(260) Month Day Year x ☐ Still working there – *SKIP to 50b*
49a.	(215) ☐☐	(238) ☐☐	(261) ☐☐
b.	(216) 1 ☐ Yes 2 ☐ No	(239) 1 ☐ Yes 2 ☐ No	(262) 1 ☐ Yes 2 ☐ No
50a.	☐ Yes – How many weeks? (217) ______ Weeks – *ASK b* 0 ☐ No – *SKIP to 51*	☐ Yes – How many weeks? (240) ______ Weeks – *ASK b* 0 ☐ No – *SKIP to 51*	☐ Yes – How many weeks? (263) ______ Weeks – *ASK b* 0 ☐ No – *SKIP to 51*
b.	(218) 1 ☐ School 2 ☐ Personal, family reasons 3 ☐ Own illness 4 ☐ Did not want to work 5 ☐ Layoff 6 ☐ Labor dispute 7 ☐ Armed Forces 8 ☐ Other – *Specify* ______	(241) 1 ☐ School 2 ☐ Personal, family reasons 3 ☐ Own illness 4 ☐ Did not want to work 5 ☐ Layoff 6 ☐ Labor dispute 7 ☐ Armed Forces 8 ☐ Other – *Specify* ______	(264) 1 ☐ School 2 ☐ Personal, family reasons 3 ☐ Own illness 4 ☐ Did not want to work 5 ☐ Layoff 6 ☐ Labor dispute 7 ☐ Armed Forces 8 ☐ Other – *Specify*
c.	(219) 1 ☐ Yes – *GO to next column and record information about this job* 2 ☐ No	(242) 1 ☐ Yes – *GO to next column and record information about this job* 2 ☐ No	(265) 1 ☐ Yes – *GO to next column and record information about this job* 2 ☐ No
51.	(220) 1 ☐ Yes – *GO to next column and record information about this job* 2 ☐ No	(243) 1 ☐ Yes – *GO to next column and record information about this job* 2 ☐ No	(266) 1 ☐ Yes – *GO to next column and record information about this job* 2 ☐ No
1.	☐ – *SKIP to 53*	☐ – *SKIP to 53*	☐ – *SKIP to 53*
2.	☐ – ASK 52	☐ – ASK 52	☐ – ASK 52
52.	(221) 1 ☐ Yes – *GO to next column and record information* 2 ☐ No – *SKIP to Check Item U*	(244) 1 ☐ Yes – *GO to next column and record information* 2 ☐ No – *SKIP to Check Item U*	(267) 1 ☐ Yes – *GO to next column and record information* 2 ☐ No – *SKIP to Check Item U*
53.	(222) 1 ☐ Yes – *GO to next column and record information about simultaneous job* 2 ☐ No – ASK 54	(245) 1 ☐ Yes – *GO to next column and record information about simultaneous job* 2 ☐ No – ASK 54	(268) 1 ☐ Yes – *GO to next column and record informationabout simultaneous job* 2 ☐ No – ASK 54
54.	(223) 1 ☐ Yes – ASK 55 2 ☐ No – *GO to next column and record information about previous job*	(246) 1 ☐ Yes – ASK 55 2 ☐ No – *GO to next column and record information about previous job*	(269) 1 ☐ Yes – ASK 55 2 ☐ No – *GO to next column and record information about previous job*
55.	(224) Month Day Year x ☐ Never worked before	(247) Month Day Year x ☐ Never worked before	(270) Month Day Year x ☐ Never worked before
56a.	(225) ______ Weeks not working	(248) ______ Weeks not working	(271) ______ Weeks not working
b.	(226) ______ Weeks looking or on layoff	(249) ______ Weeks looking or on layoff	(272) ______ Weeks looking or on layoff
1.	☐ – *SKIP to Check Item T*	☐ – *SKIP to Check Item T*	☐ – *SKIP to Check Item T*
2.	☐ – ASK 57	☐ – ASK 57	☐ – ASK 57
57.	(227) 1 ☐ School 2 ☐ Personal, family reasons 3 ☐ Ill or disabled, unable to work 4 ☐ Did not want to work 5 ☐ Couldn't find work 6 ☐ Vacation 7 ☐ Armed Forces 8 ☐ Other – *Specify* ______	(250) 1 ☐ School 2 ☐ Personal, family reasons 3 ☐ Ill or disabled, unable to work 4 ☐ Did not want to work 5 ☐ Couldn't find work 6 ☐ Vacation 7 ☐ Armed Forces 8 ☐ Other – *Specify* ______	(273) 1 ☐ School 2 ☐ Personal, family reasons 3 ☐ Ill or disabled, unable to work 4 ☐ Did not want to work 5 ☐ Couldn't find work 6 ☐ Vacation 7 ☐ Armed Forces 8 ☐ Other – Specify
1.	☐ – *GO to next column and record information about previous job*	☐ – *GO to next column and record information about previous job*	☐ – *GO to next column and record information about previous job*
2.	☐ – *SKIP to Check Item U*	☐ – *SKIP to Check Item U*	☐ – *SKIP to Check Item U*

III. WORK ATTITUDES

CHECK ITEM U

Respondent is in —
☐ Labor Force Group A ("WK" or "J" in 31 or "Yes" in 32a or 33a) — SKIP to Check Item V
☐ Labor Force Group B ("LK" in 31 or "Yes" in 34a) — SKIP to 60a
☐ Labor Force Group C (All others) — ASK 58a

58a. Do you intend to look for work of any kind in the next 12 months?

58a. (343)
1 ☐ Yes — definitely } ASK b
2 ☐ Yes — probably
☐ Maybe — **What does it depend on?** } [illegible]
3 ☐ No } SKIP to 59a
4 ☐ Don't know

b. When do you intend to start looking for work?

b. (344) ______ Month

c. What kind of work do you think you will look for?

c. (345) ☐☐☐

d. What will you do to find work?
(Mark as many as apply)

d. (346)
Check with { 1 ☐ State employment agency for counseling
2 ☐ Private employment agency
3 ☐ Employer directly
4 ☐ Friends or relatives }
5 ☐ Place or answer ads
6 ☐ School employment service
7 ☐ Other — Specify

59a. Why would you say that you are not looking for work at this time?

59a. (347)
1 ☐ School
2 ☐ Personal, family reasons
3 ☐ Health reasons
4 ☐ Does not want to work at this time of year
5 ☐ Waiting to be called into military service
6 ☐ Believes no work available
7 ☐ Other or no reason

b. If you were offered a job by some employer in THIS AREA, do you think you would take it?

b. (348)
1 ☐ Yes, definitely
2 ☐ Yes, if it is something I can do
3 ☐ Yes, if satisfactory wage
4 ☐ Yes, if satisfactory location
5 ☐ Yes, if satisfactory hours
6 ☐ Yes, if other ______ } ASK c
7 ☐ No, health won't permit
8 ☐ No, it would interfere with school
9 ☐ No, parents don't want me to
10 ☐ No, don't need the money
11 ☐ No, other ______ } SKIP to 68 (page 18)

c. How many hours per week would you be willing to work?

c. (349)
1 ☐ 1–4
2 ☐ 5–14
3 ☐ 15–24
4 ☐ 25–34
5 ☐ 35–40
6 ☐ 41–48
7 ☐ 49 or over

d. What kind of work would it have to be?

d. (350) ☐☐☐

e. What would the wage or salary have to be?

e. (351) $ ______
(352) Per
(353) $ ______
(354) Per
1 ☐ Hour
2 ☐ Week
[illegible] } [illegible]

III. WORK ATTITUDES – Continued

60a. What type of work are you looking for?

60a. (355) ☐☐☐

b. What would the wage or salary have to be for you to be willing to take it?

b. (356) $ ________ (Dollars) . ______ (Cents) per

(357) 1 ☐ Hour

(358) $ ________ (Dollars only) . 00 per:

(359) 2 ☐ Day
3 ☐ Week
4 ☐ Biweekly
5 ☐ Month
6 ☐ Year
7 ☐ Any pay
8 ☐ Other – Specify ________

c. Are there any restrictions, such as hours or location of job that would be a factor in your taking a job?

c. (360) 1 ☐ Yes – *ASK d*
2 ☐ No – *SKIP to e*

d. What are these restrictions?

d. (361) ☐

e. If you were offered a job in this area at the same pay as your last job, would you take it?

e. (362) 1 ☐ Yes, definitely
2 ☐ It depends on type of work
3 ☐ It depends if satisfied with company
4 ☐ It depends – Other – Specify below
5 ☐ No, pay not high enough
6 ☐ No, other – Specify
7 ☐ Had no prior job
} *SKIP to 69*

CHECK ITEM V

Respondent –
☐ Was in Labor Force Group A in 1970 (119R on Information Sheet) – *SKIP to 62a*
☐ Was in Labor Force Group B in 1970 (119R on Information Sheet) – *SKIP to 63*
☐ Was in Labor Force Group C in 1970 (119R on Information Sheet) – *ASK 61*

61. At this time last year you were not looking for work. What made you decide to take a job?

61. (363) 1 ☐ Recovered from illness
2 ☐ Bored
3 ☐ Heard about a job I was qualified for
4 ☐ Completed education
5 ☐ Needed money
6 ☐ Other – Specify ________
} *SKIP to 63*

62a. Would you say you like your present job more, less, or about the same as the job you held last year when we interviewed you?

62a. (364) 1 ☐ More } *ASK b*
2 ☐ Less } *ASK b*
3 ☐ Same – *SKIP to 63*

b. What would you say is the main reason you like your present job (more, less)?

b. (365) ☐☐

63. How do you feel about the job you have now? Do you like it very much, like it fairly well, dislike it somewhat, or dislike it very much?

63. (366) 1 ☐ Like it very much
2 ☐ Like it fairly well
3 ☐ Dislike it somewhat
4 ☐ Dislike it very much

64. What are the things you like best about your job?

64. (367) ☐☐

(368) ☐☐

(369) ☐☐

III. WORK ATTITUDES – Continued

65. What are the things about your job that you don't like?

65. (370) ☐☐

(371) ☐☐

(372) ☐☐

66a. Suppose someone IN THIS AREA offered you a job in the same line of work you're in now. How much would the new job have to pay for you to be willing to take it?

(If amount given per hour, record dollars and cents. Otherwise, round to the nearest dollar.)

66a. (373) $ ________ . ________ per:
(Dollars) (Cents)

(374) 1 ☐ Hour

(375) $ ________ . 00 per:
(Dollars only)

(376) 2 ☐ Day
3 ☐ Week
4 ☐ Biweekly
5 ☐ Month
6 ☐ Year
7 ☐ Other – *Specify* ________

(377) 8 ☐ I wouldn't take it at any conceivable pay
9 ☐ I would take a steady job at same or less pay
10 ☐ Would accept job; don't know specific amount
11 ☐ Don't know
12 ☐ Other

b. If someone IN THIS AREA offered you a job at your present rate of pay in a different line of work for which you are qualified, do you think you would take it?

b. (378) 1 ☐ Yes – *ASK c*
2 ☐ No – *SKIP to Check Item W*

c. What kind of work would you accept?

c. (379) ☐☐☐

CHECK ITEM W	☐ Respondent is enrolled in school this year – *SKIP to 68* ☐ All others – *ASK 67*

67. What if this job was in the same line of work you are in now, but was IN SOME OTHER PART OF THE COUNTRY – how much would it have to pay in order for you to be willing to take it?

(If amount given per hour, record dollars and cents. Otherwise, round to the nearest dollar.)

67. (380) $ ________ . ________ per:
(Dollars) (Cents)

(381) 1 ☐ Hour

(382) $ ________ . 00 per:
(Dollars only)

(383) 2 ☐ Day
3 ☐ Week
4 ☐ Biweekly
5 ☐ Month
6 ☐ Year
7 ☐ Other – *Specify* ________

(384) 8 ☐ I wouldn't take it at any conceivable pay
9 ☐ I would take a steady job at same or less pay
10 ☐ Would accept job; don't know specific amount
11 ☐ Depends on location; cost of living
12 ☐ Don't know
13 ☐ Other

68. Now I'd like your opinion about women working. People have different ideas about whether married women should work. Here are three statements about a married woman with preschool-aged children. *(HAND CARD TO RESPONDENT.)* **In each case, how do you feel about such a woman taking a full-time job outside the home. Is it definitely all right, probably all right, probably not all right, or definitely not all right?**

Statements		Definitely all right	Probably all right	Probably not all right	Definitely not all right	No opinion, undecided
a. If it is absolutely necessary to make ends meet	(385)	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
b. If she wants to work and her husband agrees	(386)	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
c. If she wants to work, even if her husband does not particularly like the idea	(387)	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

III. WORK ATTITUDES – Continued

69. **We would like to find out whether people's outlook on life has any effect on the kind of jobs they have, the way they look for work, how much they work, and matters of that kind. On each of these cards is a pair of statements, numbered 1 and 2. For each pair, please select ONE statement which is closer to your opinion. In addition, tell me whether the statement you select is MUCH CLOSER to your opinion or SLIGHTLY CLOSER.**

In some cases you may find that you believe both statements; in other cases you may believe neither one. Even when you feel this way about a pair of statements, select the one statement which is more nearly true in your opinion.

Try to consider each pair of statements separately when making your choices; do not be influenced by your previous choices.

a. (388) 1 ☐ Many of the unhappy things in people's lives are partly due to bad luck.

2 ☐ People's misfortunes result from the mistakes they make.

Is this statement much closer or slightly closer to your opinion?

8 ☐ Much 9 ☐ Slightly

b. (389) 1 ☐ In the long run, people get the respect they deserve in this world.

2 ☐ Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.

Is this statement much closer or slightly closer to your opinion?

8 ☐ Much 9 ☐ Slightly

c. (390) 1 ☐ Without the right breaks, one cannot be an effective leader.

2 ☐ Capable people who fail to become leaders have not taken advantage of their opportunities.

Is this statement much closer or slightly closer to your opinion?

8 ☐ Much 9 ☐ Slightly

d. (391) 1 ☐ Becoming a success is a matter of hard work; luck has little or nothing to do with it.

2 ☐ Getting a good job depends mainly on being in the right place at the right time.

Is this statement much closer or slightly closer to your opinion?

8 ☐ Much 9 ☐ Slightly

e. (392) 1 ☐ What happens to me is my own doing.

2 ☐ Sometimes I feel that I don't have enough control over the direction my life is taking.

Is this statement much closer or slightly closer to your opinion?

8 ☐ Much 9 ☐ Slightly

f. (393) 1 ☐ When I make plans, I am almost certain that I can make them work.

2 ☐ It is not always wise to plan too far ahead, because many things turn out to be a matter of good or bad fortune anyhow.

Is this statement much closer or slightly closer to your opinion?

8 ☐ Much 9 ☐ Slightly

g. (394) 1 ☐ In my case, getting what I want has little or nothing to do with luck.

2 ☐ Many times we might just as well decide what to do by flipping a coin.

Is this statement much closer or slightly closer to your opinion?

8 ☐ Much 9 ☐ Slightly

III. WORK ATTITUDES – Continued

69h. (395) 1 ☐ Who gets to be boss often depends on who was lucky enough to be in the right place first.

2 ☐ Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.

Is this statement much closer or slightly closer to your opinion?

8 ☐ Much 9 ☐ Slightly

i. (396) 1 ☐ Most people don't realize the extent to which their lives are controlled by accidental happenings.

2 ☐ There is really no such thing as "luck."

Is this statement much closer or slightly closer to your opinion?

8 ☐ Much 9 ☐ Slightly

j. (397) 1 ☐ In the long run, the bad things that happen to us are balanced by the good ones.

2 ☐ Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.

Is this statement much closer or slightly closer to your opinion?

8 ☐ Much 9 ☐ Slightly

k. (398) 1 ☐ Many times I feel that I have little influence over the things that happen to me.

2 ☐ It is impossible for me to believe that chance or luck plays an important role in my life.

Is this statement much closer or slightly closer to your opinion?

8 ☐ Much 9 ☐ Slightly

70. If, by chance, you were to get enough money to live comfortably without working, do you think that you would work anyway?

70. (399) 1 ☐ Yes
2 ☐ No
3 ☐ Undecided

Notes

IV. FUTURE JOB PLANS

71a. Now I would like to talk to you about your future job plans. What kind of work would you like to be doing when you are 30 years old?	71a.	(400) ☐☐☐ (401) 1 ☐ Same as present job 2 ☐ Don't know
CHECK ITEM X — *Refer to Item 121R on the Information Sheet,*		(402) 1 ☐ Respondent's future job plans are the same as when last interviewed – *(Entries in 71a and item 121R on the Information Sheet are the same) – SKIP to Check Item Y-1* 2 ☐ Respondent's future job plans differ from when last interviewed – *(Entries in 71a and item 121R of Information sheet differ) – ASK 71b* 3 ☐ Respondent not asked about future job plans last year – *SKIP to Check Item Y-1*
71b. When we last interviewed you, you said you thought that you'd like to be *(entry in item 121R of Information Sheet)*. **Why would you say you have changed your plans?**	71b.	(403) ☐

Notes

(404)

(405)

(406)

V. RETROSPECTIVE WORK HISTORY

CHECK ITEM Y-1	*Refer to items 115R, 116R and 1.* ☐ Respondent enrolled in school in 1969, 1970 **or** 1971 – *SKIP to 80a, page 26* ☐ Respondent **not** enrolled in school in 1969, 1970 **and** 1971 – *GO to Check Item Y-2*
CHECK ITEM Y-2	*Refer to items 123R, 124R and 36a.* ☐ Respondent with the same employer (or self-employed status) in 1969, 1970 **and** 1971 – *Read introductory statement and ASK 72.* ☐ All others – *SKIP to 75a, page 24*

72. Now I'd like **for** you to look back over the past three years and give me some of your reactions to it.

72a. Since October 1969, have you ever looked for another job except during periods of layoff?	72a. (407)	1 ☐ Yes – *ASK b* 2 ☐ No – *SKIP to 73a*
b. Would you say that you have looked for another job frequently, occasionally or just once?	b. (408)	1 ☐ Frequently 2 ☐ Occasionally 3 ☐ Just once
c. In what year was that *(most recent if more than one)*?	c. (409)	19____ Year
d. Why did you decide to look for another job at that (this) time?	d. (410) (411)	☐☐ ☐☐
e. How did you go about looking? *(Mark all methods used; do not read list.)*	e. (412)	Check with { 1 ☐ State employment agency (or counselor) 2 ☐ Private employment agency 3 ☐ Employer directly 4 ☐ Friends or relatives } 5 ☐ Placed or answered ads 6 ☐ Other – Specify
f. What kind of work were you looking for?	f. (413)	☐☐☐
g. Were you looking for work in the same local area as you were living at that time?	g. (414)	1 ☐ Yes 2 ☐ No
h. Did you find a job that you could have had?	h. (415)	1 ☐ Yes – *ASK i* 2 ☐ No – *SKIP to p*
i. What kind of work was it?	i. (416)	☐☐☐
j. What kind of business or industry was it?	j. (417)	☐☐☐
k. Where was the job located?	k. (418)	☐ ________ County ________ State
l. What would the job have paid?	l. (419) (420) (421) (422)	$ ______ . ____ per (Dollars) (Cents) 1 ☐ Hour $ ______ . 00 per (Dollars only) 2 ☐ Day 3 ☐ Week 4 ☐ Biweekly 5 ☐ Month 6 ☐ Year 7 ☐ Other – Specify ______
m. How many hours per week would the job have involved?	m. (423)	______ Hours per week
n. Did you accept this job?	n. (424)	1 ☐ Yes – *SKIP to 75a, page 24* 2 ☐ No – *ASK o*
o. Why did you decide not to take it?	o. (425) (426)	☐☐ ☐☐ } *SKIP to 75a, page 24*
p. Why do you think you were unable to find anything?	p. (427) (428)	☐☐ ☐☐

V. RETROSPECTIVE WORK HISTORY – Continued

73a. Since October 1969, has any other employer made you a definite offer of a full-time job that you did not accept?

73a. ☐ **Yes – How many times?**

(429) ______ – ASK b

0 ☐ No – SKIP to 74a

b. In what year was that (most recent if more than one)**?**

b. (430) 19____ Year

c. How did you happen to get the offer?

c. (431) 1 ☐ Job offered by a friend, relative

2 ☐ Job offered by a business acquaintance

3 ☐ Job offered by a former employer

4 ☐ Other – Specify ______________

d. What kind of work was it?

d. (432) ☐☐☐

e. What kind of business or industry was it?

e. (433) ☐☐☐

f. Was this job located in the same local area as you were living at that time?

f. (434) 1 ☐ Yes

2 ☐ No

g. What would the job have paid?

g. (435) $ __________ . ______ per
(Dollars) (Cents)

(436) 1 ☐ Hour

(437) $ __________ . 00 per
(Dollars only)

(438) 2 ☐ Day

3 ☐ Week

4 ☐ Biweekly

5 ☐ Month

6 ☐ Year

7 ☐ Other – Specify ______________

h. How many hours per week would this job have involved?

h. (439) ______ Hours per week

i. Why did you decide not to take it?

i. (440) ☐☐

(441) ☐☐

} SKIP to 75a

☐ If item 72a is "Yes" – SKIP to 75a

74a. During this period have you ever seriously thought of looking for another job?

74a. (442) 1 ☐ Yes – ASK b

2 ☐ No – ASK d

(443) ☐☐

b. Why would you say you've thought of looking?

b. (444) ☐☐

c. Why didn't you actually look for a job?

c. (445) ☐☐

(446) ☐☐

} SKIP to 75a

d. Why not?

d. (447) ☐☐

(448) ☐☐

V. RETROSPECTIVE WORK HISTORY – Continued

75a. All in all, so far as your work is concerned, since October 1969, do you think that you have progressed, moved backward, or just about held your own?	75a.	(449) 1 ☐ Progressed – *ASK b* 2 ☐ Moved backward – *SKIP to c* 3 ☐ Held own – *SKIP to 76a*
b. In what way(s) would you say you have progressed?	b.	(450) ☐☐ (451) ☐☐ (452) ☐☐ } *SKIP to 76a*
c. In what way(s) would you say you have moved backward?	c.	(453) ☐☐ (454) ☐☐ (455) ☐☐
76a. Since October 1969, do you feel that, so far as work is concerned, you have been in any way discriminated against because of your age?	76a.	(456) 1 ☐ Yes – *ASK b* 2 ☐ No – *SKIP to 77a*
b. In what way(s)?	b.	(457) ☐☐ (458) ☐☐ (459) ☐☐
77a. Since October 1969, do you feel that, so far as work is concerned, you have been discriminated against because of race, religion, nationality, or for any other reason?	77a.	(460) 1 ☐ Yes – *ASK b and c* 2 ☐ No { *If Negro, SKIP to 78a* *All others, SKIP to Check Item Z*
b. For what reason(s)? *(Mark as many as apply)*	b.	(461) 1 ☐ Race 2 ☐ Religion 3 ☐ Nationality 4 ☐ Other – *Specify* ______
c. In what ways have you been discriminated against?	c.	(462) ☐☐ (463) ☐☐ (464) ☐☐ } *If Negro, ASK 78a* *All others, SKIP to Check Item Z*
78a. So far as you know, are there (other) employers in this area who discriminate against Negroes, such as by refusing to hire or promote them?	78a.	(465) 1 ☐ Yes – *ASK b* 2 ☐ No 3 ☐ Don't know } *SKIP to Check Item Z*
b. Would you say most employers, many employers, some employers, or few employers in this area discriminate against Negroes?	b.	(466) 1 ☐ Most employers 2 ☐ Many employers 3 ☐ Some employers 4 ☐ Few employers

Notes

V. RETROSPECTIVE WORK HISTORY – *Continued*

CHECK ITEM Z	*Refer to items 112R, 113R, 114R, 115R, 116R and I.* ☐ Respondent enrolled in school or in the Armed Forces at time of one or more of the 1966, 1967, 1968, 1969, 1970 or 1971 surveys – *SKIP to 80a* ☐ All others – *ASK 79a*

79a. Excluding paid vacation and paid sick leave, since October 1966 – about how many different weeks were you NOT working?	79a. (467) ______ Weeks 0 ☐ None – *SKIP to 80a*
b. How many of these *(entry in 79a)* **weeks were you looking for work or on layoff from a job?**	b. (468) ______ Weeks 0 ☐ None
c. That means there were about *(entry in 79a less entry in 79b)* **weeks since October 1966 that you were not working or looking for work. Is that correct?**	c. ☐ Yes – *GO to 80a* ☐ No – *Determine whether 79a or 79b is incorrect and make necessary correction*

Notes

(469)

(470)

(471)

3 / 2

VI. HEALTH

80a. Do you have any health problem or condition that limits in any way your activity in school?

80a. (472) 1 ☐ Yes – *SKIP to 81a*
2 ☐ No – *ASK 80b*

b. Do you have any health problem or condition that limits in any way the amount or kind of work you can do?

b. (473) 1 ☐ Yes – *SKIP to 81a*
2 ☐ No – *ASK 80c*

c. Do you have any health problem or condition that in any way limits your other activity?

c. (474) 1 ☐ Yes – *ASK 81a*
2 ☐ No – *SKIP to Check Item AA*

81a. How long have you been limited in this way?

81a. *Record actual time and mark the appropriate box*

(475) ______ Years **OR**

(476) ______ Months

(477) 1 ☐ Less than 3 months
2 ☐ 3 months, but less than 6 months
3 ☐ 6 months, but less than 1 year
4 ☐ 1 year, but less than 3 years
5 ☐ 3 years, but less than 5 years
6 ☐ 5 years, but less than 10 years
7 ☐ 10 years or longer, but less than life
8 ☐ All my life

SHOW FLASHCARD Ⓐ

b. Do you ever have any difficulty performing any of the activities on this card?

b. (478) 1 ☐ No
2 ☐ Yes – **Which ones?** – *Mark each activity mentioned and for each marked ask –*

		Can you . . . at all? Yes	No
(479)	1 ☐ Walking	2 ☐	3 ☐
(480)	2 ☐ Using stairs or inclines	2 ☐	3 ☐
(481)	3 ☐ Standing for long period of time	2 ☐	3 ☐
(482)	4 ☐ Sitting for long periods	2 ☐	3 ☐
(483)	5 ☐ Stooping, kneeling or crouching	2 ☐	3 ☐
(484)	6 ☐ Lifting or carrying weights up to 10 lbs.	2 ☐	3 ☐
(485)	7 ☐ Lifting or carrying heavy weights	2 ☐	3 ☐
(486)	8 ☐ Reaching	2 ☐	3 ☐
(487)	9 ☐ Handling and fingering	2 ☐	3 ☐
(488)	10 ☐ Other – Specify ______________	2 ☐	3 ☐

SHOW FLASHCARD Ⓑ

c. Are there any things on this card that bother you enough to be a problem?

c. (492) 1 ☐ No
2 ☐ Yes – **Which ones?** – *Mark each activity mentioned*

(493) 1 ☐ Pain
2 ☐ Tiring easily, no energy
3 ☐ Weakness, lack of strength
4 ☐ Aches, swelling, sick feeling

(494) 5 ☐ Fainting spells, dizziness
6 ☐ Nervousness, tension, anxiety, depression
7 ☐ Shortness of breath, trouble breathing
8 ☐ Other – Specify ______________

VI. HEALTH – Continued		
SHOW FLASHCARD Ⓒ **81d. Which of these conditions would you have trouble working under BECAUSE OF YOUR HEALTH?** *(Mark each condition mentioned)*	81d. (495) *	1 Fumes, dust or smoke 2 Hot places 3 Cold places 4 Damp places 5 Noise or vibrations
	(496) *	6 Confusion or disorder 7 Working indoors 8 Working outdoors 9 Other – Specify ____________ 0 None
e. Are you able to go outdoors without help from another person?	e. (497)	1 Yes 2 No
f. Are you able to use public transportation, such as trains or buses, without help from another person?	f. (498)	1 Yes 2 No
g. Do you ever need help from others in looking after your personal care such as dressing, bathing, eating, and other daily activities?	g. (499)	1 Yes – ASK h 2 No – SKIP to 82
h. Would you say you need this kind of help frequently, occasionally, or rarely?	h. (500)	1 Frequently 2 Occasionally 3 Rarely
82. During the past three years, has your health condition become better, worse, or remained about the same?	82. (501)	1 Better 2 Worse 3 Same
CHECK ITEM AA	Respondent currently married – ASK 83 All others – SKIP to 86	
83. Does your wife's health or physical condition limit the amount or kind of work she can do?	83. (502)	1 Yes – ASK 84 2 No – SKIP to 86a
84. How long has she been limited in this way?	84. (503)	1 Under 3 months 2 3 months, but less than 6 months 3 6 months, but less than 1 year 4 1 year, but less than 3 years 5 3 years or more
85a. Is she able to go outdoors without help from another person?	85a. (504)	1 Yes 2 No
b. Is she able to use public transportation, such as trains or buses, without help from another person?	b. (505)	1 Yes 2 No
c. Does she ever need help from others in looking after her personal care such as dressing, bathing, eating and other daily activities?	c. (506)	1 Yes – ASK d 2 No – SKIP to e
d. Would you say she needs this kind of help frequently, occasionally, or rarely?	d. (507)	1 Frequently 2 Occasionally 3 Rarely
e. Does the health condition of your wife in any way affect the kind or amount of work you do or where you work?	e. (508)	1 Yes – **How?** ____________ ____________ 2 No

VI. HEALTH – Continued

86a. Is there anyone (else) in this family living here who is not working or not going to school because of poor health? *(Mark as many as apply)*	86a. (509)	☐ Yes – **Who is it?** 1 ☐ Son 2 ☐ Daughter 3 ☐ Parents (in-laws) 4 ☐ Other – Specify ____________ 5 ☐ No – SKIP to 87
b. Does the health condition of this person in any way affect the kind or amount of work you do or where you work?	b. (510)	☐ Yes – **How?** ____________ ____________ 0 ☐ No

Notes

(511)

(512)

(513)

VII. ASSETS AND INCOME

87a. So far as your overall financial position is concerned, would you say you are better off, about the same, or worse off now than you were at this time last year?	87a. (514) 1 ☐ Same – SKIP to Check Item BB 2 ☐ Better off } ASK b 3 ☐ Worse off } ASK b
b. In what ways are you (better, worse) off?	b. (515) ☐
CHECK ITEM BB	☐ Respondent is NOT head of household – SKIP to 90a ☐ Respondent is head of household – ASK 88a
88a. In the last 12 months, did you (or your wife) receive financial assistance from any of your relatives?	88a. (516) 1 ☐ Yes – ASK b–c 2 ☐ No – SKIP to item 89a
b. From whom?	b. (517) ☐
c. How much did you receive?	c. (518) $ ________ . 00
89a. Is this house (apartment) owned or being bought by you (or your wife)?	89a. (519) 1 ☐ Yes 2 ☐ No – SKIP to 90a
b. About how much do you think this property would sell for on today's market?	b. (520) $ ________ . 00
c. About how much do you (or your wife) owe on this property for mortgages, back taxes, home improvement loans, etc.?	c. (521) $ ________ . 00 ☐ None
90a. Do you (or your wife) have any money in savings or checking accounts, savings and loan companies or credit unions?	90a. ☐ Yes – **How much altogether?** (522) $ ________ . 00 ☐ No – ASK b
b. Do you (or your wife) have any –	b.
(1) U.S. Savings Bonds?	☐ Yes – **What is their face value?** (1) (523) $ ________ . 00 ☐ No – ASK (2)
(2) Stocks, bonds, or mutual funds?	(2) ☐ Yes – **About how much is their market value?** (524) $ ________ . 00 ☐ No
91a. Do you (or your wife) rent, own, or have an investment in a farm, business, or any other real estate?	91a. (525) 1 ☐ Yes – ASK b–d 2 ☐ No – SKIP to 92a
b. Which one?	b. (526) 1 ☐ Farm 2 ☐ Business 3 ☐ Real estate
c. About how much do you think this (business, farm, or other real estate) would sell for on today's market?	c. (527) $ ________ . 00
d. What is the total amount of debt and other liabilities on this (business, farm, or other real estate)?	d. (528) $ ________ . 00 ☐ None
92a. Do you (or your wife) own an automobile(s)?	92a. (529) 1 ☐ Yes – ASK b–d 2 ☐ No – SKIP to 93
b. What is (are) the make and model year?	b. (530) ____ Model year ________ Make (531) ____ Model year ________ Make (532) ____ Model year ________ Make
c. Do you owe any money on this (these) automobile(s)?	c. ☐ Yes – **How much?** (533) $ ________ . 00 (534) $ ________ . 00 (535) $ ________ . 00 ☐ No
d. How much would this (these) car(s) sell for on today's market?	d. (536) $ ________ . 00 (537) $ ________ . 00 (538) $ ________ . 00
93. Do you (or your wife) owe any (other) money to stores, banks, doctors, or anyone else, excluding 30-day charge accounts?	93. ☐ Yes – **How much?** (539) $ ________ . 00 ☐ No

VII. ASSETS AND INCOME – Continued

		RESPONDENT	WIFE Not married
Now I would like to ask a few questions about your income in the last 12 months.			
94a. How much did you (and your wife) receive from wages, salary, commissions, or tips from all jobs, before deductions for taxes or anything else?	94a.	(540) $ ______ . 00 None	(545) $ ______ . 00 None
b. Did you (and your wife) receive any income from working on your own or in your own business or farm? $ ______ (Gross income) less $ ______ (Expenses) $ ______ (Net income)	b.	Yes – **How much?** (541) $ ______ . 00 No	Yes – **How much?** (546) $ ______ . 00 No
c. Did you (or your wife) receive any unemployment compensation?	c. (1)	Yes – **How many weeks?** (542) ______	Yes – **How many weeks?** (547) ______
	(2)	**How much?** (543) $ ______ . 00 No	**How much?** (548) $ ______ . 00 No
d. Did you (or your wife) receive any other income, such as rental income, interest or dividends, income as a result of disability or illness, etc.?	d.	Yes – **How much?** (544) $ ______ . 00 No	Yes – **How much?** (549) $ ______ . 00 No

CHECK ITEM CC	(550) 1 ☐ Respondent (and wife and children) live alone – *SKIP to 95b* 2 ☐ All others – *ASK 95a (If two or more RELATED respondents in household, ask 95a–b only once, and transcribe answers from the first to the other questionnaires.)*

95a. In the past 12 months, what was the total income of ALL family members living here? *(Show flashcard)*	95a.	(551) 1 ☐ Under $1,000 2 ☐ $1,000 – $1,999 3 ☐ 2,000 – 2,999 4 ☐ 3,000 – 3,999 5 ☐ 4,000 – 4,999 6 ☐ 5,000 – 5,999 7 ☐ 6,000 – 7,499 8 ☐ 7,500 – 9,999 9 ☐ 10,000 – 14,999 10 ☐ 15,000 – 24,999 11 ☐ 25,000 and over
b. Did anyone in this family receive any welfare or public assistance in the last 12 months?	b.	(552) 1 ☐ Yes 2 ☐ No

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VIII. FAMILY BACKGROUND

96a. How many persons not counting yourself (or your wife) are dependent upon you for at least one-half of their support?

96a. (553) ______ Number
0 ☐ None – *SKIP to Check Item DD*

b. Do any of these dependents live somewhere else other than here at home with you?

b. ☐ Yes – **How many?**
(554) ______ Number – ASK c
0 ☐ No – *SKIP to Check Item DD*

c. What is their relationship to you?

c. (555) ☐

CHECK ITEM DD

Refer to name and address label on cover page.

(556) 1 ☐ Respondent lives in same area (SMSA or county) as when last interviewed – *SKIP* to 99
2 ☐ Respondent lives in different area (SMSA or county) than when last interviewed – ASK 97a

97a. When we last interviewed you, you were living in a different area. How many miles from here is that?

97a. (557) ______ Miles

b. How did you happen to move here?

b. (558) ☐

☐ Respondent currently in school – SKIP to 98c

98a. Did you have a job lined up here at the time you moved?

98a. (559) 1 ☐ Yes, different from job held at time of move
2 ☐ Yes, same as job held at time of move
3 ☐ Yes, transferred job in same company
} SKIP to c
4 ☐ No – ASK b

b. How many weeks did you look before you found work?

b. (560) ______ Total weeks
00 ☐ Did not look for work – *SKIP to c*
99 ☐ Still haven't found work

(1) **How many weeks did you look before you moved?**

(1) (561) ______ Weeks before

(2) **How many weeks did you look after you moved?**

(2) (562) ______ Weeks after

c. **Since we last interviewed you, have you lived in any area other than the present one or the one in which you lived when we interviewed you last?**

c. ☐ Yes – **How many?**
(563) ______
0 ☐ No
} SKIP to Check Item EE

99. Have you lived in any area other than the present one since we last interviewed you?

99. ☐ Yes – **How many?**
(564) ______
0 ☐ No

CHECK ITEM EE

Refer to 112R on Information Sheet and item 9.
☐ Respondent not enrolled in school in 1966 **and** 1971 – *GO to Check Item FF*
☐ All others – SKIP to 102a

CHECK ITEM FF

Refer to items 125R on Information Sheet and current address.
☐ Current address (SMSA or county) is different from 1966 residence (SMSA or county) – ASK 100a
☐ All others – SKIP to 102a

100a. When we interviewed you in 1966 you lived in (entry in item 125R). **All things considered, how do you feel about your move -- was it a good idea or a poor idea to move here?**

100a. (565) 1 ☐ Good idea – ASK b
2 ☐ Poor idea – SKIP to c
3 ☐ Don't know – SKIP to d

b. Why was it a good idea?

b. (566) ☐
______
SKIP to d

c. Why was it a poor idea?

c. (567) ☐
______

d. Did you have friends or relatives living here before you moved here?

d. (568) 1 ☐ Yes
2 ☐ No

VIII. FAMILY BACKGROUND – Continued

101a. In general, how do you like your work here compared to the work you did before you moved? Do you like it better, like it worse, or like it about the same?	101a.	(569) 1 ☐ Like it better } ASK *b* 2 ☐ Like it worse } ASK *b* 3 ☐ Like it about the same – *SKIP to 102a*
b. In what ways is it better (worse)?	b.	(570) ☐☐ _____ (571) ☐☐ _____ (572) ☐☐
102a. What is your present draft classification?	102a.	(573) ☐☐
b. (If 1-Y, or 4-F) Why were you rejected?	b.	(574) 1 ☐ Failed both physical and written test 2 ☐ Failed physical test 3 ☐ Failed written test 4 ☐ Not accepted for other reasons 5 ☐ Don't know reason
103a. Was a foreign language spoken regularly in your home when you were 15 years old?	103a.	(575) ☐ Yes – **What language?** _____ 0 ☐ No
b. How many rooms are there in this house (apartment)? Do not count bathrooms, porches, balconies, foyers, halls or half-rooms.	b.	(576) ____ Rooms
Notes		(577) (578) (579)

3 1 3

Now I have a few questions about the education and work experience of the other family members living here.

Line number 104	Name List below all persons living here who are related to respondent. *Enter line number from the Household Record Card in Column 104.* 105a	Relationship to respondent *Example: wife, son, daughter-in-law, brother, etc.* 105b	Age *As of October 1, 1971* 105c	Persons 6–24 years old			Persons 14 years old and over		
				Is . . . attending or enrolled in school? *Circle:* Y – Yes N – No 106	*If "Yes" –* What grade (year)? *If "No" –* What is the highest grade (year) . . . ever attended? 107	Did . . . finish this grade (year)? 108	In the past 12 months how many weeks did . . . work either full- or part-time (not counting work around the house)? 109	If person worked at all in the past 12 months – In the weeks that . . . worked, how many hours did . . . usually work per week? 110a	What kind of work was . . . doing in the past 12 months? *If more than one, record the longest.* 110b
		(580) Respondent							
		(581)		(582) Y N		Y N	(583)		(584)
		(585)		(586) Y N		Y N	(587)		(588)
		(589)		(590) Y N		Y N	(591)		(592)
		(593)		(594) Y N		Y N	(595)		(596)
		(597)		(598) Y N		Y N	(599)		(600)
		(601)		(602) Y N		Y N	(603)		(604)
		(605)		(606) Y N		Y N	(607)		(608)
		(609)		(610) Y N		Y N	(611)		(612)
		(613)		(614) Y N		Y N	(615)		(616)
		(617)		(618) Y N		Y N	(619)		(620)
		(621)		(622) Y N		Y N	(623)		(624)
		(625)		(626) Y N		Y N	(627)		(628)
		(629)		(630) Y N		Y N	(631)		(632)
		(633)		(634) Y N		Y N	(635)		(636)
		(637)		(638) Y N		Y N	(639)		(640)
		(641)		(642) Y N		Y N	(643)		(644)
		(645)		(646) Y N		Y N	(647)		(648)
		(649)		(650) Y N		Y N	(651)		(652)
		(653)		(654) Y N		Y N	(655)		(656)
		(657)		(658) Y N		Y N	(659)		(660)
		(661)		(662) Y N		Y N	(663)		(664)
		(665)		(666) Y N		Y N	(667)		(668)
		(669)		(670) Y N		Y N	(671)		(672)

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111. **When we last interviewed you, you mentioned** (read names from item 129R on Information Sheet) **as persons who will always know where you can be reached even if you moved away. Is this still true?**
(If so, verify the addresses and telephone numbers and enter below. If not, enter information about other persons who will know the respondent's whereabouts.)

	Name	Relationship to respondent	Address	Telephone number
(1)				
(2)				

NONINTERVIEWS IN 1970

Ask the following questions of all respondents who were noninterviews in 1970. Transcribe the answers to the appropriate item on the Information Sheet, then proceed with the regular interview.

A. Were you attending or enrolled in regular school at this time last year?

1 ☐ Yes – ASK B(1)
2 ☐ No – SKIP to B(2)

B. (1) What grade were you attending at that time?
(2) What is the highest grade of regular school you have completed?

1 Elementary	1	2	3	4	5	6	7	8
2 High school	1	2	3	4				
3 College	1	2	3	4	5	6	7+	

Transcribe entries to 116R and 117R

C. Were you working or looking for work at this time last year?

1 ☐ Working
2 ☐ With a job, not at work
3 ☐ Looking for work
4 ☐ Unable to work
5 ☐ In Armed Forces
6 ☐ Other – Specify ______________

____

____

END OF QUESTIONS

Transcribe entries to 119R as follows:

1. Mark "Labor Force Group A" if box 1 or 2 is marked
2. Mark "Labor Force Group B" if box 3 is marked
3. Mark "Labor Force Group C" if box 6 is marked
4. Mark "Labor Force Group C – Armed Forces" if box 5 is marked
5. Mark "Unable to work" if box 4 is marked

WHEN THE TRANSCRIPTION HAS BEEN COMPLETED, BEGIN THE REGULAR INTERVIEW WITH ITEM 1.

Notes

INFORMATION SHEET
1966 through 1970 surveys

112R. School enrollment status 1966
☐ Enrolled
☐ Not enrolled
☐ Armed Forces

113R. School enrollment status 1967
☐ Enrolled
☐ Not enrolled
☐ Armed Forces

114R. School enrollment status 1968
☐ Enrolled
☐ Not enrolled
☐ Armed Forces

115R. School enrollment status 1969
☐ Enrolled
☐ Not enrolled
☐ Armed Forces

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INFORMATION SHEET – Continued
1966 through 1970 surveys

116R. School enrollment status 1970
(673) 1 ☐ Enrolled
2 ☐ Not enrolled
3 ☐ Armed Forces

117R. Highest year of regular school completed OR grade respondent was attending in 1970
(674) 1 ☐ Elementary 1 2 3 4 5 6 7 8
2 ☐ High school 1 2 3 4
3 ☐ College 1 2 3 4 5 6 7+

118R. Educational goal when last interviewed
(675) 1 ☐ Not asked educational goal
2 ☐ High school 1 2 3 4
3 ☐ College 2 4 6 7+

119R. Labor force status in 1970
(676) 1 ☐ Labor Force Group A
2 ☐ Labor Force Group B
3 ☐ Labor Force Group C
4 ☐ Labor Force Group C – Armed Forces
5 ☐ Unable to work

120R. Date of most recent interview
(677)

Month	Day	Year

121R. Occupation desired at age 30 when last interviewed –

Specify ____________________
☐ Other, don't know, not asked

122R. Name of employer in 1966

____
☐ Self-employed in 1966
☐ Not employed in 1966

123R. Name of employer in 1969

____
☐ Self-employed in 1969
☐ Not employed in 1969

124R. Name of employer in 1970

____
☐ Self-employed in 1970
☐ Not employed in 1970

125R. (678) ☐ Residence in 1966
__________ City __________ State

126R. (679) ☐ Residence in 1967
__________ City __________ State

127R. (680) ☐ Residence in 1968
__________ City __________ State

128R. (681) ☐ Residence in 1969
__________ City __________ State

129R. Names and addresses of persons who will always know where respondent can be reached:

1. ____________________
____
____
2. ____________________
____